12 1 11 11 11

Cancelled: 5 August 1959

WO No: 30,000 Series

Commence of the Control of the Contr

TRULE TOOL MARKET - CONVAIR 880

THE STATE OF THE STATE ATTEME

The Lan Maro Interest in direct to deliver Tit's first airplane 15 October

notation (a) sales order the been registed in reflect the above delivery.

This Sales Order is hereby cancelled and the original delivery schedule as established on S.O. 880-1-2 is in offect.

OZL

2064

C O H V A I R A Division of General Dynamics Corporation (San Diego)

THA MINUTES

23 July 1959

Revised 7 August 1959

No. 199 Model, 22-1

Reference: (a) S. O. 880-1-240 dated 20 July 1959, carcelled 5 August 1959.

DELIVERY OF TWAOS FIRST AIRPLANE

The San Diego Division has been directed, by Reference (a) Sales Order, to deliver TWA's first airplane 15 October 1959.

Revised to carcel.

ACTION: All concerned are directed to proceed with the above.

JSB: JMC:is

J. B. Bergstrom Project Engineer

6-115

RECEIVED

AUG 13 '59 PROJECT SPEC. GROUF

CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughos Tool Company Date: 17 July 1959

Houston, Texas
SO No: 830-1-239

Reference: (a) TMA letter, SSO-999A-245, dated 13 July 1959 WO No: 30,000 Series

(b) Commercial Change Proposal No. 269

(b) Commercial Change Proposal No. 209

(c) MCL No. 10,330 (d) D.I.B. No. 4,010

HUGHES TOOL COMPANY - CONVAIR 880

OXYGEN SYSTEM, CLARIFICATION OF

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,330, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Commercial Contracts Department within four weeks (8/12/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

WDWs ed

Log No: 1900

D. H. Digges

Manager of Commercial Contracts

C O N V A I R A Division of General Dynamics Corporation (San Diego)

THA MINUTES

24 July 1959

No. 198 22-1

Reference:

- (a) S.O. 880-1-239, dated 17 July 1959
- (b) CCP No. 269
- (e) MCL No. 10,330

Oxygen System, Clarification of.

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL No. 10,330, reference (c).

Description of Change:

Page 118, Paragraph 3.19.5.4 INDIVIDUAL OUTLETS:

Ravise the second sentence to read as follows:

Provisions for one additional mask shall be made for each seat row in the main cabin area (three masks for each of the 19 rows on both sides of the airplane) to provide for emergency oxygen for children in arms. The oxygen outlet system for the club area shall be as shown on Figure 3.19-4.

Figure 3.19-4 GASEOUS OXYGEN SYSTEM:

Above figure will be replaced in the specification with Enclosure (A) on Customer approval of this CCP.

ACTION: All concerned are authorized to proceed with the above change. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

J. S. Bergetrom Project Engineer Wail Zone 6-115

JBB: JMC: ga

CONVAIR-SAN DIEGO

SALES ORDER

Sold tos Hughes Tool Company

Date:

10 July 1959

Houston, Texas

SO Mos

880-1-238

References

(a) TWA TWX, 830-10014-246, dated & July 1959

WO No: 30,000 Series

(b) Commercial Change Proposal No. 292

(e) MIL No. 10,406

(d) D.I.B. No. 4,010

HUGHES TOOL COMPANY - CONVAIR 880

DELETION OF ICE DETECTOR UNITS FROM NO. 2 & NO. 4 PODS

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 10,406, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- Engineering Specification Section will forward necessary revised specification pages to the Commercial Contracts Department within four weeks (8/11/59) per Reference (d).
- (3) This change results in a demease in the aircraft guaranteed weight empty of 7 pounds with no effect on performance or delivery schedule.

WDW sed

Log Nos 1800

Manager of Commercia

C O N V A I R A Division of General Dynamics Corporation (San Diego)

TWA MUNUTES

15 July 1959

No. 196 22-1

Reference:

- (a) S.O. 880-1-238, dated 10 July 1959
- (b) CCP No. 292
- (c) MCL No. 10,406

Deletion of Ice-Detector Units From No. 2 and No. 4 Pods.

THA has accepted, as evidenced by reference (a), our proposal, reference (b), based on reference (c).

Description of Change:

Page 125, Paragraph 3.20.2.5 ICE-DETECTOR SYSTEM:

Revise the paragraph to read as follows:

"An ice-detector system shall be installed, with warning lights in the pilot compartment. Two detector units shall be installed; one in the Wo. 1 pod and one in the No. 3 pod. Automatic control of the airplane anti-icing system shall be provided; operated by either of the ice-detector units. Provisions shall be made for the installation of one ice detector unit in No. 2 pod and one in No. 4 pod."

Page A-2, APPENDIX I-C, POWER PLANT EQUIPMENT:

Revise the below item as follows:

From:	2)1	Ice Warning Detectors	Goodyear (Carl Type 1260-MR12A)	3065-1802"
To:	₂ 5	Ice Warning Detectors	Goodyear (C.A.R.L. Type T260- MKL2A)	3065-1802"

This change results in a decrease in the aircraft guarenteed weight copty of 7 pounds per eircraft.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

J. S. Bergstrom Project Engineer

JSB: JMC: gm

-SAN DIRGO

ef roug

SALES CADER

##WRevised &

Sold the Suprem Texas Company

Hauston, Jaxas

Retyped: 21 March 1951 Date: 7 July 1959

#18 April 1960 Who Pebruary 1961

(a) THE THE, 880-5 AL-243, dated 1 Jal 13 9

GGP 291

(a) W.L No. 10,405

4) 9.1 B No. 4.010 e) C7 M dated & April 1960

r) THA THE 880-1304A-330 dated 15 April 1960

W.O. No: 30,000 Series

S.C. No: 880-1-217

THEFS THEL CONTAIN - CONVAIR 880

REVISION TO AIR CONDITIONING SYSTEM

- (1) The Course as accepted, as evidenced by Reference (a), our proposal. Moler was (b), lased upon MUL No. 10,405, Reference (c). Accordingly, all incestants concerned are directed to presed with incorporation of the change and the in Reference (b).
- (5) Dudnestag Smolling im Sastion will forward necessary revised specification more to the Commerce al Contracte Department within four wools (8/3/59) per THE PERSON (ATT)
- This banks will be incurrented in 17 HPC 880 Aircraft (Engineering Versies) -5 1-4. 19, 21-31, Convair Mrg. Seq. Nos. 3, 6, 15, 18, 19 25, 27, 15 19, 40 5 42), and results in a decrease of guaranteed weight empty at a pound with no effect on performance or delivery schedule

AL

Log Sci 1767, 1514; -691, 210;

/8/ W. D. Willia for D. H. Magees

Fig. 10 the total u/c involved from 17 Manager of Commercial Contracts Act . O. Mar Tey A County

Method to delete Hog Ver of h and May You 9-400

CONVAIR A Division of General Dynamics Corporation (San Diego)

'IWA Minutes

13 July 1959 Revised 25 April 1960

> No. 197 Model. 22-1

Reference: (a) S. O. 880-1-237 dated 7 July 1959, Rev. 18 April 1960

(b) Commercial Change Proposal No. 291 (c) MCL No. 10,405

REVISION TO AIR CONDITIONING SYSTEM

Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposel, Reference (b), prepared in accordance with MCL 10.405. Reference (c).

Description of Change:

Page 126A, Figure 3.20-1 AIR CONDITIONING PRESSURIZATION SYSTEM:

Revise above illustration by deleting the fresh air valve from the ground air conditioning system.

20

This change will be incorporated on-19-TWA 880 Aircraft (Airplane Nos. 12 through 39) 1 This change results in a decrease in the guaranteed weight empty of 10 pounds per sireraft.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four

weeks of Sales Order date.

J. S. Bergstrom
Project Engineer
6-115 Project Engineer

JBB: JNE:is

-MAY 6 '60

PROJECT SPEC. GROUP

old or log a red to

te: 7 July 1960

(a) I a etter 300 435, ared 25 June 1989

SO Nos

(b) TVA Letter 880S-542 dated 28 Junuary 1960

NO Nos 30,000 Jordes

16 Hereb 1961 (61063)

HUGHAS 100 COMPAN . CONVAIR 880

CECHICAL DATA SHIP ING INFORMATION

n to company with reference (a), the below listed technical data is to so the company of the colors

300.1

Trinary flight Serval

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The Same Normal

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Arrow

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Drafting Room Manual
FAA Reports
Wiring Diagrams
Electrical Load Analy ...
Engineering Process Specific Micro Matery

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Fort-Continger International Airport

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*Revised 2 February 1960 7 July 1959 50 880-1-236

Late of the

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by the World Airlines, Int.

Ld Continent International Airport

Fit ille, Missouri

Literation: Langer, Faintenance Training

Purguant to Reference (b) this Sales Order is revised to give further instructions on transmittal of data:

1. A copy of all transmitted letters or shipment notices on the above data should be transmitted to TMA, Attention of Mr. E. E. Cannedy, Director of Equipment, Contracts, & Administration, 10 Richards Road, Kansas City 8, Missouri.

PTGala #74

Convince: To one address in the \$1. 5 to add test (1)

Longer of Commercial Contracts

CONVAIR SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company Houston, Texas Date: 1 J

1 July 1959

Reference:

(a) TWA letter, 880-980A-240, dated

30 No: 880-1-235

22 June 1959 (b) Commercial Change Proposal No. 282 WO No: 30,000 Series

(c) MCL No. 10,339 (d) D.I.B. No. 4,010

HUGHES TOOL COMPANY - CONVAIR 880

CHANGE AS 246C TO AS 26AD

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,339, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Commercial Contracts Department within four weaks (6/27/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.
- (4) The Commercial Contracts Department is to be notified of any change in approved installations that may result from compliance with AS 264D prior to proceeding with the accomplishment of such change.

PROJECT SPEC.

WDW: Pigecd log No: 1735

A D. H. Digges Menager of Commercial Contracts

CONVAIR A Division of General Dynamics Corporation (San Diego)

TWA MENUTURS

2 July 1959

No. 195 Model. 22-1

Reference (a) S. O. 880-1-235 dated 1 July 1959

(b) Commercial Change Proposal No. 282

(c) MCL No. 10,339

CHANGE AS246C to AS264D

Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,339, Reference (c).

The Commercial Contracts Department is to be notified of any change in approved installations that may result from compliance with AS 264D prior to proceeding with the accomplishment of such change.

Description of Change:

Page 74 (Cont), Paragraph 3.16.8.2.2 - INSTRUMENT PANELS"

Change the following in the first sentence:

"Aeronautical Standard 246C, revised 12-15-54" From:

To: "Aeronautical Standard 264D, revised 3-15-56" RECEIVED JUL 8 PROJECT SPEC.

GROUP

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

> J. S. Bergstrom Project Engineer

6-115

JSB: JMC:is

CONVAIR-SAN DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughes Tool Company Houston, Texas Date: 27 May 1959

SO Nos

880-1-234

NO Nos

30,000 Series

HUGHES TOOL COMPANY - CONVAIR 580

CHANGE ORDER NO. 29

(1) Attached is a copy of Change Order No. 29 signed by Hughes Tool Company, which amends Detail Specification Report No. ZD-22-002, deted 1 June 1956, revised 7 September 1956, to incorporate Specification Change Nos. 239, 241, 242, 243, 244, 245, 247, 249, 251, and 252 on the Model 880 aircraft.

D): 8 cd

Log No: n1381

Manager of Commercial Contracts

c. E. Burke (w/exec. copy)
G. T. Bovec (w/attach)
880 Project Office (w/attach)
Commercial Sales (w/attach)
H. A. Keyes (w/attach)
E. E. Johnson (w/attach)
J. Doig (w/attach)

W. F. Brown (w/attach 2)
H. R. Kennedy (w/attach)
Arthur Anderson & Co. (w/attach)
A. J. Braidie
J. J. Jodka (w/attach)
Sales Order File
Change Order No. 29 File

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956 by and between Hughes Tool Company and General Dynamics Corporation (Convair Division)

- A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change Nos. 239, 241, 242, 243, 244, 245, 247, 249, 251, and 252 and Commercial Change Proposal Summary No. 28 attached hereto and made a part hereof.
- B. Airplanes Affected:

Undelivered = 30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 28 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 28 attached.

E. Effect on delivery:

None

- F. This Change Order results in the following charges and/or credits:
 - 1. Change No. 239 Dual Distance Measuring Equipment Tacan, Installation of (Pages 56, 61A, 84, 86, 89, 102 Cont., 104, and A-5 Cont.)

	Per Airplane	Total for 30 Airplanes		
Recurring Non-recurring	\$ 15,007.00 52,00	\$ 450,210.00 - 1,560,00		
Total Charges	\$ 15,059.00	\$ 451,770,00		

2. Change No. 241 - Delete Reference to Aileron from Paragraph 3.5.2.6 (Page 22)

No Charges or Credits

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956 by and between Hughes Tool Company and General Dynamics Corporation (Convair Division)

F.	3.	Change No. 242 - Provide Assist Ropes	1
		in Flight Compartment (Page 118 Cont.)

No Charges or Credits

4. Change No. 243 - Course Deviation Indicator, Placarding of (Pages 56 and 61A)

No Charges or Credits

5. Change No. 244 - Nordskog Buffet Ovens, Installation of (Pages 108, A-1-1, A-14 Cont., 118E, 118F, 118G, 118H, 118I, and 118J)

Recurring \$ 313.00 \$ 9,390.00 Non-recurring 26,00 780.00

Total Charges \$ 339.00 \$ 10,170.00

6. Change No. 245 - Flush Buffet Door Latches, Installation of (Pages 118E, 118F, 118G, 118H, 118I, and 118J)

 Recurring
 \$ None \$ None \$ None \$ None \$ 1,620.00

 Non-recurring
 54.00 \$ 1,620.00

 Total Charges
 \$ 54.00 \$ 1,620.00

7. Change No. 247 - Designation of Service Interphone Stations (Page 99)

No Charges or Credits

8. Change No. 249 - Customer Vended Equipment, Deletion of (Pages 103, 1040, 118 Contes A-1, A-7, A-14 Contes, and A-18)

9. Change No. 251 - Change Jack Pad Adapters from AAF to MS-type (Page 127)

No Charges or Credits

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956 by and between Hughes Tool Company and General Dynamics Corporation (Convair Division)

Fo	10.		252 - Change 24 Inches (Pa		٠		
				.,		No Char	ges or Credita
	11.	Summary of credits:	the foregoing	charges and/	or		
			Recurring Non-recurring		\$	16,634.00 163.00	\$ 499,020.00 4,890.00
			Total Charges		\$	16,797.00	\$ 503,910,00
G.	251, into	and 252 an		hange Proposal ail Specifica	L Summary N	o. 28 are he	45, 247, 249, reby incorporated 02 dated 1 June
Н。	Notwithstanding any other provisions of the Purchase Agraement and/or this Change Order No. 29 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order Nos. 26, 27, and 28 as said Change Orders were executed by General Dynamics Corporation. In the event that said Change Order Nos. 26, 27, and 28 are so executed by Hughes Tool Company, this Change Order No. 29 shall be considered in full force and effect. In the event said Change Order Nos. 26, 27, and 28 are not so executed by Hughes Tool Company, this Change Order Nos. 29 shall be void and of no effect.						
-	Except as herein modified all provisions of the Detail Specification shall remain in effect.						
Acc	නෙ දිපර	and agreed	to				
	_		day of	Mey	195_9.		
		OOL COMPANY				YNAMICS CORP	ORATION
Бу	R.	W. Rummel			ВуВ,	. Coggan	

Title Vice President

Title Special Representative

CONTAIR SAN DIEGO

ACCOUNTING SALES ORDER

Houston, Texas

Dato: 27 May 1959

SO No:

880-1-233

WO No:

30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

CHARGE ORDER NO. 28

(1) Attached is a copy of Change Order No. 28 signed by Hughes Teol. Company, which amends Detail Specification Report No. 2D-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change Nos. 186, 208, 222, 224, 226, 234, 236, 237, an the Model 880 aircraft.

DW ed

log No: 1380

G. T. Boyse (w/attach)
880 Project Office (w/attach)
Commercial Sales (w/attach)
H. A. Kayes (w/attach)
E. E. Jehnson (w/attach)
J. Doig (w/attach)

Parager of Commercial Contracts

W. F. Brown (w/attach 2) H. R. Kennedy (w/attach) Arthur Anderson & Co. (w/attach) A. J. Braidie

A. J. Braidie J. J. Jodks. Sales Order File Change Order No. 25 File

pursuant to

Article 5 of Furchase Agreement dated 10 September 1956 by and between Hughes Tool Company and General Dynamics Corporation (Convair Division)

- A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change Nos. 186, 208, 222, 224, 226, 234, 236, and 237 and Commercial Change Proposal Summary No. 27 attached hereto and made a part hereof.
- B. Airplanes Affected:

Undelivered = 30, except as follows:

Change No. 224 undelivered - 24; Delivery Nos. 7-30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 27 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 27 attached.

B. Effort on delivery:

None

- F. This Change Order results in the following charges and/or credits:
 - 1. Change No. 186 Specification Administrative Change, Elevators (Page 24)

No Charges or Credits

2. Change No. 208 - Mach Trim Provisions, "Kollamen Integrated Flight Instrument System" Control Chassis (Page A-10)

	Per Airplane	Total for 30 Airplanes
Recurring Hon-recurring	\$ 882.00 297.00	\$ 26,460.00 8,910.00
Kotal Ciarges	\$ 1,179.00	\$ 35,370,00

pursuant to

Artisle 5 of Furchase Agreement dated 10 September 1956 by and between Hughes Tool Company and General Dynamics Corporation (Commain Division)

F.							Altitud			
	Signal,	Inc	eorpo	TE	tion	of	(Pages	80	and	125)

3.	Change No. 222 - Audible Altitude Warning Signal, Incorporation of (Pages 80 and 125)		
		Per Airplane	Total for
	Recurring Non-recurring	\$ 144.00 242.00	\$ 4,320.00 7,260,00
	Total Charges	\$ 386,00	\$ 11,580,CO
ho	Change No. 224 - Lubber Line Reference on Polar Path Compass Flux Gate, In- stallation of (Pages 59 and 59 Cont.)		Total for
		Per Airplane	24 Airplanes
	Resurring Non-recurring	\$ 87.00 103.00	\$ 2,088.00 2,472.00
	Total Charges	\$ 190,00	\$ 4,560,00
5.	Change No. 225 - Puritan Oxygen Masks, Crew Supplemental, Installation of (Page 118 and A-18)		
		No Charge	es or Credits
6.	Change No. 234 - HF Communications Equipment, Change from Installation to Provisions (Pages 83, 85, 89, 90, 96, 97, 104A, 104C, A-5, and A-7)		
		Per Airplane	Total for 30 Airplanes
	Recurring Credit Non-recurring	\$ 4,228.00 216.00	\$ 126,860,C0 6,480,C0
	Total Credits	\$ 4,012,00	\$ 120,360.00
7.	Change No. 236 - Power Supply, 416N-5 Collins, Change of (Page A-5)		
	Recurring	\$ 61.00	\$ 1,830,00
	Non-recurring	25.00	750.00
	Total Charges	\$ 86,00	\$ 2,580,00

parguant to

Article 5 of Furchase Agreement dated 10 September 1956 by and between Hughes Tool Company and General Dynamics Corporation (Convair Division)

F. 8. Change No. 237 - Spare Wiring Conduit, Installation of (Page 68 Cont.)

Total Credita

9. Summary of gradits:

	Per Airplane	30 Airolanes
Recurring Non-recurring	\$ 124.00 63.00	\$ 3,720.00
Total Charges	\$ 187,00	\$ 5,610,00
the foregoing charges and/or		
	Per Airplane	Total for Purahase Agreement
Recurring Credit Non-recurring Charge	\$ 2,930.00 946.00	\$ 88,422.00 27,762.00

1,984,00

Total for

60,650,00

- The attached Specification Change Nos. 186, 208, 222, 224, 226, 234, 236, and 237 and Commercial Change Proposal Summary No. 27 are hereby incorporated into and become a part of Detail Specification Report No. ZD-22-002 dated 1 June 1956, Revised 7 September 1956.
- H. Notwithstanding any other provisions of the Purchase Agreement and/or this Change Order No. 28 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order Nos. 25, 26, and 27 as said Change Orders were executed by General Dynamics Corporation. In the event that said Change Order Nos. 25, 26, and 27 are so executed by Hughes Tool Company, this Change Order No. 28 shall be considered in full force and offect. In the event said Change Order Nos. 25, 26, and 27 are not so executed by Hughes Tool Company, this Change Order Nos. 25 shall be void and of no effect.

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956 by and between Hughes Tool Company and General Dynamics Corporation (Convair Division)

10	Exment	8.8	herein	modified	all	provisions	of	the	Detail	Specification	shall
			offeet.								

Accepted and agreed to

This 20th day of May	1952.
HUGHES TOOL COMPANY	GENERAL DYNAMICS CORPORATION
By R. W. Russel	By B. Coggan
Title Special Representative	Title Vice President-Convair Division

SALES ORDER

Sold to: Hughes Teel Company

Dates

26 May 1959

Houston, Texas

SO Nos

880-1-232

Reference: (a) Article 13 of Purchase Agreement

WO No:

30,000 Samies

MODEL 880 DEMONSTRATION FLIGHT

(1) This Sales Order is issued to authorize a demonstration ride on the Model 880 airplane for the following TWA personnel on 26 May 1959:

J. B. LeClaire

S. G. Granger

D. Bebee

- (2) This demonstration flight is to be performed on a non-interference basis with the 880 flight test program.
- (3) All costs of the flight, if any, additive to normal flight test costs incurred in connection with this Sales Order are to be charged to the TWA contract.

DW:bs

Log No. 1355

D. H. Digges

Manager of Commercial Contracts

CONVAIR_SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company

Dates

21 May 1959

Houston, Texas

SO No:

880-1-231

Ruference:

(a) TWA letter, 880-947A-234, dated

WO Nos

30,000 Series

18 May 1959

(b) Commercial Change Proposal No. 271

(c) MCL No. 10,328

(d) D.I.B. No. 4.010

HUGHES TOOL COMPANY - CONVAIR 880

ADD FLIGHT CREW SHOULDER HARNESS INERTIA REELS TO EQUIPMENT LIST

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,328, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change cutlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Commercial Contracts Department within four weeks (6/14/59) per Reference (d).
- This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

RECEIVED

MAY 26 '59

PROJECT SPEC. GROWP

WDW3 be

leg Nos 1327

Do H. Digges

aragar of Commercial Contracts

CONVAIR A Division of General Dynamics Corporation (San Diego)

TWA MUNIFIES

27 May 1959

No. 193

Model. 22-1

16 P. J. J.

Reference: (a). S. O. 880-1-231 dated 21 May 1959

(b). Commercial Change Proposal No. 271

(c). MCL No. 10,328

ADD FLIGHT CREW SHOULDER HARNESS INTERFULA REELS TO EQUIPMENT LIST

Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,328, Reference (c).

Description of Change:

Page 2A, Figure 1-1 CENERAL ARRAMIEMENT: Revise above figure to reflect correct height-overall dimension

Page 15A, Paragraph 3.1.3.3 BODY:

Revise the fourth item as follows:

From: Height-overall Height-overall To:

364 0.3" 361 3.7"

Page A-14, APPENDIX I-C FURNISHINGS:

Change the following items in the equipment list:

2 Pilot's Safety Belt and

Shoulder Harness

1 Flight Engineer's Safety Belt and Shoulder Harness

2 Stewardess Safety Belt and Shoulder Harness

2 Pilot's Safety Belt and Pacific Scientific 0101145-0 To:

Inertia Reels Including

Shoulder Harness 1 Flight Engineer's Safety Pacific Scientific Belt and Inertia Reel

Including Shoulder Harness 3 Stewardess' Safety Belt and Shoulder Harness

Add the following items to the equipment list:

1 Observer's Seat

1 Observer's Safety Belt and Shoulder Harness

RECEIVED

0101146-0

JUN 3 '59 PROJECT SPEC. GROUP

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

J/S Bergstrom Project Engineer

6-115

JBB: JMC:18

RECEIVED

JUN 3 '59 PROJECT SPEC. GROUP

SALES ORDER

Hughes Tool Company Sold to:

Dates

18 May 1959

Houston, Texas

SO No:

880-1-230

Reference:

(a) TWA letter, 880-942A-233, dated 6 May 1959

WO No:

30,000 Series

(b) Commercial Change Proposal No. 277

(c) MCL No. 10,334

(d) D.I.B. No. 4.010

HUGHES TOOL COMPANY - CONVAIR 880

DELETION OF WORD "TRIM" FROM PARAGRAPH 3.6.3

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,334, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Commercial Contracts Department within four weeks (6/11/5?) per Reference (d)
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

RECEIVED

MAY 26'59

PROJECT SPEC. GROUP

WILWabe

Log No: 1271

W. H. Digges

Manager of Commercial Contracts

10 Weller

C O H V A I R
A Division of General Dynamics Corporation
(San Diego)

THA MINUTES

19 140 1959

RECEIVED

MAY 21 '59

SPEC. GROUF

No. 192 Model. 22-1

Reference: (a). S. O. 880-1-230 dated 18 May 1959

(b). Commercial Change Proposal No. 277

(c). MeL No. 10,334

DELETION OF WORD TRUM FROM PARAGRAPH 3.6.3

Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MIL Ec. 10,334, Reference (c).

Description of Change:

Page 24, Paragraph 3.6.3 - RLEVATORS:

In the first line of the last sentence, delete the word "trim".

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order Date.

Project Engineer

5-115

JSB:JNC:18

SALES ORDER

Co - 886-1-25

Sold to:

Hughes Tool Company

Houston, Te as

Reference: (a)

(a) Commercial Change Proposal No.

(b) Detail Specification Paragraph 3.19.5 4

Revised: SO No: May 1959 7 May 1959 880-1-229

WO Nos

30,000 Series

(c) TWA THY, 5-24, dated 20 May 1959

HUCHES TOOL COMPANY - CONVAIR 880

EVISED OXYGEN OUTLETS IN LOUNGE AREA

- (1) TWA has agreed that the following oxygen outlet arrangement in the lounge area of its Model #80 aircraft will be deemed by TWA to comply with the referenced paragraph of the Detail Specification and contract requirements:
 - * Add two marks on the right hand side of the lounge area, one additional mack in the four-seat cluster fermard (asking a total of five macks in this area), and one additional mich at the two of inboard feeing right hand seats (for a total of three macks in this area).

Accordingly, all departments concerned are directed to proceed with insorporation of the above oxygen configuration.

- (2) Price effects of this change are included in Sales Order No. 880-1-27.
 - Install two extra lounge area oxygen masks in overhead at FS. 464 on B.L. 1618 L and R. Installation should permit matigatery and practical maintenance and trouble-shooting of leaking connections without removal of headliner, and service box to be removable through its access.

WUW: be

Log No:---- 1421

Revised to change indented portion f Para (1) and add Ref (c).

for D. H. Digges
Manager of Commercial Contracts

RECEIVED

JUN 8 '59

PROJECT SPEC. GROUP

C O N V A I R A Division of General Dynamics Corporation (San Diego)

THA MINUTES

1 June 1959

No. 194 Model. 22-1

Reference:

(a). S. O. 880-1-229 revised 27 May 1959

(b). Commercial Change Proposal No. (19)

(e). Detail Specification Paragraph 3.19.5.4

RISVISED OXYGEN OUTLIEFS IN LOURCE AREA

TWA has agreed, as evidenced by Reference (a), that the following oxygen outlet arrangement in the lounge area of its Convair 880 Aircraft will be deemed by TWA to comply with Reference (c) paragraph of the Detail Specification and control requirements:

Install two extra lounge area oxygen masks in overhead at FS. 464 on B.L. 1618 L and R. Installation should permit satisfactory and practical maintenance and trouble-shooting of leaking connections without removal of headliner, and service box to be removable through its access.

ACTION: All concerned are authorized to proceed with the above.

JSB: JMC:18

roject Engineer

5-115

RECEIVED

JUN 3 '59

PROJECT SPEC. GROUF Sold to:

Hughes Tool Company

Date:

30 April 1959

Houston, Texas

SO No:

880-1-228

Reference:

TWA letter, 880-938A-231, dated (a)

27 April 1959

WO No:

30,000 Series

(b) Commercial Change Proposal No. 267 (c) MCL No. 10,382

(d) D.I.B. No. 4,010

HUGHES TOOL COMPANY - CONVAIR 880

INSTALLATION OF MODIFIED 51R-3 VOR RECEIVER

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,382, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Commercial Contracts Department within four weeks (5/28/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contrast price.

WDWtbo

Log Nos 1121

D. H. Digges Manager of Commercial Contracts RECEIVED

MAY 7'59 PROJECT SPEC.

GROUP

C O N V A I R A Division of General Dynamics Corporation (San Diego)



TWA MINUTES

11 May 1959

No 191 Model 22-1

Reference:

(a) S. O. 880-1-228 dated 30 April 1959

(b) Commercial Change Proposal No. 267

(c). MCL No 10,382

INSTALLATION OF MODIFIED 51R-3 VOR RECEIVER

1. Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL NO. 10,382, Reference (c)

Task is as follows:

Install on shelf "B" & "C" of Electronic rack Collins VOR units marked 1-49724 "B" in liqu of those identified as 1-49/24 "G".

VENDOR TASK

Modify 51R-3 VOR Receiver from "G" dwg. change to "H" dwg. change

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date

J. S Bergstrom Project Engineer

200000 10

6-115

RECEIVED

MAY 15 '59

PROJECT SPEC. GROUP

JBB: JEC: is

CONVAIR-SAN DIEGO

ACCOUNTING SALES CRIDER

Sold to: Rughes Tool Company Houston, Texas Date: 27 April 1959

SO No:

880-1-227

WC No:

30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

CHANGE ORDER NO. 27

(1) Attached is a copy of Change Order No. 27 signed by Hughes Tool Company, which amends Detail Specification Report No. 2D-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Changes 97B, 104B, 228, 230, 231, and 232 on the Model 880 aircraft.

MINDHIPO

Log No: 1037

Manager of Commercial Contracts

cc: I. Burks (w/exec. copy)
O. T. Boves (w/attach)
380 Project Office (w/attach)
Commercial Sales (w/attach)
i. A. Kayes (w/attach)
E. E. Johnson (w/attach)
J. Poig (w/attach)

W. F. Brown (w/attach 2)
H. R. Kennedy (w/attach)
Arthur Anderson & Co. (w/attach)
A. J. Braidie
J. J. Jodka (w/attach)
Sales Order File
Change Order No. 27 File

purguent to

Article 5 of Purchase Agreement dated 10 September 1956 by and between Hughes Tool Company and General Dynamics Corporation (Convair Division)

- A. The Detail Specification is hereby amended to reflect cortain changes all as more particularly set forth in Specification Change Nos. 978, 1048, 228, 230, 231, and 232 and Commercial Change Proposal Summary No. 26 attached hereto and made a part hereof.
- B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 26 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 26 attached.

E. Effect on delivery:

None

- F. This Change Order results in the following charges and/or eradits:
 - 1. Change No. 97B Integral Folding Food Trays, Installation of (Pages 106, 129, and A-15)

	Per Airplane	30 Airplanes
Recurring Charge	\$ 3,680.00 676.00	\$ 110,400.00 20,280.00
Total Charges	\$ 4,356,00	\$ 130,680,00

2. Change No. 104B - 52-Inch Wide Fassenger Seats, Installation of (Pages 2B, 106, 129, A-15, and A-24A)

No Charges or Credits

Total for

3. Change No. 228 - Stewardess Step Cabin Passenger Seats, Installation of (Page 106)

No Charges or Credits

purnuant to

Article 5 of Purchase Agreement dated 10 September 1956 by and between Hughes Tool Company and General Dynamics Corporation (Cowair Division)

F. 4. Change No. 230 - Crash Energy Absorber Standard Cabin, Installation of (Pages 106 Cont¹d. and A-14)

	105 Cont d. and A-14)		
		Per Airplane	Total for 30 Airplanes
	Recurring Charge	\$ 969.00 623.00	\$ 29,070.00
	Total Charges	\$ 1,592,00	\$ 47.760,00
5.	Change No. 231 - Muslin Sub-covers Cabin Passenger Seats, Installation of (Page 105)		
	Recurring Charge Non-recurring Charge	\$ 869.00 11.00	\$ 26,070.00 330.00
	Total Charges	\$ 880,00	\$ 26,400,00
6。	Change No. 232 - Adjustable Head Rest Cabin Passenger Seats, Installation of (Page 106)		
	Recurring Charge Non-recurring Charge	\$ 1,818.00 354,00	\$ 54,540.00 10,620,00
	Total Charges	\$ 2,172,00	\$ 65,160,00
7.	Summary of the foregoing charges and/ or credits:		
	Recurring Charges Non-recurring Charges	\$ 7,336.00 1,664,00	\$ 220,080.00 49,920.00
	Total Charges	\$ 9,000,00	\$ 270,000,00

G. The attached Spesification Change Nos. 978, 1048, 228, 230, 231, and 232 and Commercial Change Proposal Summary No. 26 are hereby incorporated into and become a part of Datail Specification Report No. 2D-22-002 dated 1 June 1956, Ravised 7 September 1956.

parsuant to

Article 5 of Furchase Agreement dated 10 September 1956 by and between Hughes Tool Company and General Dynamics Corporation (Cenvair Division)

- Ho Notwithstanding any other provisions of the Furchase Agreement and/or this Change Order No. 27 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order Nos. 25 and 26 as said Change Order were executed by General Dynamics Corporation. In the event that said Change Order Nos. 25 and 26 are so executed by Hughes Tool Company, this Change Order Nos. 27 shall be considered in full force and effect. In the event said Change Order Nos. 25 and 26 are not so executed by Hughes Tool Company, this Change Order Nos. 27 shall be void and of no effect.
- I. Except as herein modified all provisions of the Detail Specification shall remain in effect.

This 13th day of April 1	99,9
HUGHES TOOL COMPANY	GENERAL DYNAMICS CORPORATION
By R. W. Rimel.	By B. Coggan
Title Special Representative	Title Vice President Convair Division

Accepted and agreed to

1/28/59 Approved as to Legality & Form C.C.S. CONVAIR-SAM DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughes Tool Company Houston, Texas

Date: 27 April 1959

SO No:

880-1-226

HO No:

30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880 CHANGE ORDER NO. 26

(1) Attached is a copy of Change Order No. 26 signed by Hughes Tool Company, which amends Detail Specification Report No. ZD=22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Changes 34A, 160A, 206A, 207, 209, 211, 212, 215, 216, 217A, 218, 221, 225, and 227 on the Model 880 aircraft.

MIMING

Log No: 1038

G. T. Bovee (w/attach)
880 Project Office (w/attach)
Commercial Sales (w/attach)
H. A. Kayes (w/attach)
Commercial Contracts (S.O.)
E. E. Johnson (w/attach)

Monager of Commercial Contracts

J. Doig (w/attach)
W. F. Brown (w/attach 2)
H. R. Kennedy (w/attach)
Arthur Anderson & Co. (w/attach)

Change Order No. 26 File

A. J. Braidie

J. J. Jodka (w/attach)

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956 by and between Hughes Tool Company and General Dynemics Corporation (Conveir Division)

- A. The Detail Specification is hereby amended to reflect certain changes ell as more particularly set forth in specification Change Nos. 34A, 16OA, 206A, 207, 209, 211, 212, 215, 216, 217A, 216, 221, 225, and 227 and Commercial Change Proposal Jummary No. 25 attached hereto and made a part hereof.
- B. Airplance Affected:

Undelivered - 30, except as follows: Change No. 206A undelivered - 24; Delivery Nos. 7-30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summery No. 25 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 25 attached.

E. Effect on delivery:

BROM

- F. This Change Order rexults in the following charges and/or credits;
 - 1. Change No. 34A Provisions for Passenger Service Supply Cabinet (Page 109)

No Charges or Credits

2. Change No. 160A - Revision to Interior Fabric Weights (Page A-16)

No Charges or Gredits

pursuent to

Article 5 of Purchase Agreement dated 10 September 1956 by and between Hughes Tool Company and General Dynamics Corporation (Convair Division)

3. Change No. 206A - Increased Ramp Weight and Tahooff Weight (TWA A/C Hos. 7-30) (Fages 19 and 6B)

	Per	Airplane	otal for Airplanes
Recurring Charge	\$	839.00 408.00	\$ 20,136.00 9,792.00
Total Charges	\$	1,247.00	\$ 29,928.00
200 - Londing Gest Component			

4. Change No. 207 - Landing Gear Component Heat Treat (Page 36)

No Charges or Credits

5. Change No. 209 - Specification Administrative Chango (Page 179)

No Charges or Credits

6. Change No. 211 - Specification Administrative Change (Page 178)

No Charges or Credits

7. Change No. 212 - Installation of Provisions for WG Recorder (Page 61)

No Charges or Credits

8. Change No. 215 - Specification Administrative Change (Page 7)

No Charges or Credits

9. Change No. 216 - TWA Selected Exterior Markings and Color Seheme (Page A-15)

No Charges or Credits

10. Change No. 217A - CAR Amendment 4b9 (Pages 8, 118, and 118D)

No Charges or Credits

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956 by and batween Hughes Tool Company and General Dynamics Corporation (Comveir Division)

11. Change No. 218 - Replacement of Recirculation Fam (Page A-17)

No Charges or Credits

12. Change No. 221 - Revision to Buffet Ovens (Pages 118E, 118F, 118G, 118H, 118I, 118J, ar. 118K)

	ar. 118K)			
		Per A	irplana	Total for 30 Airplanes
	Recurring Charge Non-recurring Charge	\$	NONE 79,00	% NONE 2,364.00
	Total Charges	\$	79.00	\$ 2,364,00
13.	Change No. 225 - Revision to ATC Transponder Panel (Page A-7)			
	Recurring Charge	\$	60.00 13.00	\$ 1,800.00 390.00
	Total Charges	\$ -	73,00	\$ 2,190,00
2.4	at the second			

14. Change No. 227 - Temperature Messurement Plane Illustration (Pages 120 and 126E)

No Charges or Credits

15. Summary of the foregoing charges and/or credits:

	Ser. 1 - 6 Per Airplane	Ser. 7 & Up.	Total for Purchase Agreement
Recurring Charge Non-recurring Char	\$ 60.00 92.00	\$ 899.00 500.00	\$ 21,936.00 12,546.00
Total Charges	\$ 152,00	\$ 1,399.00	\$ 34,482.00

pursuant to

Article 5 of Purchase Agroment dated 10 September 1956 by and between Hughes Tool Company and General Dynamics Corporation (Convair Division)

- G. The attached Specification Change Nos. 34A, 160A, 206A, 207, 209, 211, 212, 215, 216, 217A, 218, 221, 225, and 227 and Commercial Change Proposal Summary No. 25 are hereby incorporated into and bacome a part of Detail Specification Report No. ZD-22-002 dated 1 June 1956, Revised 7 September 1956.
- H. Notwithstanding any other provisions of the Purchase Agreement and/or this Change Order No. 26 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order Nos. 23, 24, and 25 as said Change Orders were executed by General Dynamics Corporation. In the event that said Change Order Nos. 23, 24, and 25 are so executed by Hughes Tool Company, this Change Order No. 26 shall be considered in full force and effect. In the event said Change Order Nos. 23, 24, and 25 are not so executed by Hughes Tool Company, this Change Order Nos. 23, 24, and 25 are not so executed by Hughes Tool Company, this Change Order No. 26 shall be void and of no effect.
- I. Except as herein modified all provisions of the Detail Spacification shall remain in effect.

Accepted and agreed to	
This 10 day of April 19	5 <u>9</u> .
HUGHES TOOL COMPANY	GENERAL DYNAMICS CORPORATION
By R. W. Rummel	By Thomas B. Eastland, Jr.
Title Special Representative	Title Chief of Contract Administration

Approved as to Legality & Form 8: 1/26/1959

SALES ORDER

Sold to: Hughes Tool Company

Date:

23 April 1959

Houston, Texas

SO No:

880-1-225

Reference:

(a) TWA TWX, 880-933A-229, dated 22 April 1959

WO No:

30,000 Series

(b) Commercial Change Proposal No. 268

(c) MCL No. 10,389

(d) D. I.B. No. 4.010

HUGHES TOOL COMPANY - CONVAIR 880

INSTALLATION OF FLIGHT RECORDER

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,389, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (5/21/59) per Reference (d).
- (3) This change results in an increase in the aircraft guaranteed weight empty of 32 pounds with no effect on performance or delivery schedule.

WD 1:be

Log No: 1041

D. H. Digges

Manager of Commercial Contracts

CONVAIR A Division of General Dynamics Corporation (Sen Diego)



THA MINUTUS

29 April 1959

No. 190 Model. 22-1

Reference:

(a). S. O. 880-1-225 dated 23 April 1959

(b). Commercial Change Proposal No. 268

(c). MCL No. 10,389

INSTALLATION OF FLIGHT RECORDER

Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MDL 10,389, Reference (c).

Description of Change:

Page 61

Paragraph 3.14.3.8 FLIGHT DATA RECORDING PROVISIONS:

Revise the paragraph title and the paragraph to read as follows:

"FLIGHT DATA RECORDER: A Lockheed Air Service Flight Recorder No. 4001550 Model C and Amplifter No. 4001551 shall be installed, with the necessary wiring, static and pitot lines, in the hydraulic compartment."

Page A- 10, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Add the following item to the page:

"FLIGHT DATA RECORDER

Flight Recorder

Lockheed Air Service

4001550

Model C

Amplifier

Lockheed Air Service

4001551"

RECEIVED

FIGURE 3.17-2, PITOT STATIC SYSTEM SCHEMATIC

MAY 5 '59

Revise above illustration to show connections to Flight Recorder.

PROJECT SPEC. GROUF

This change results in an increase in the guaranteed weight empty of 32 pound's per aircraft.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four

weeks of Sales Order date.

J. 5. Bergstrim Project Engineer

6-115

JSB: JMC:18

SALES ORDER

CCP5 429

Sold to: Hughes Tool Company

Dater

34 April 1959

Houston, Texas

SO No:

880=1=224

Reference:

(a) TWA TWX, 880-922A-228, dated 13

April 1959

WO No:

30,000 Series

(b) Commercial Change Proposal No. 262

(c) MCL No. 10,379

(d) D.I.B. No. 4.010

HUGHES TOOL COMPANY - CONVAIR 880

AIRSPEED ANGLE OF ATTACK INDICATOR

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,379, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (5/12/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

WDW:ba

Log No: 1018

C. G. Glasgov Manager of Contracts

TWA MINUTES





No. 189

22-1

Reference (a). S. O. 880-1-224 dated 14 April 1959

(b). Commercial Change Proposal No. 262 (c). MCL No. 10,379

1. Airspeed Angle of Attack Indicator

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,379, Reference (c).

Page A-10, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Revise the second item in Description List as follows:

B25685-10 plus From "2 Airspeed Angle-of-Attack Indicator Kollsman Range Markings"

Kollsman (P/N to be "2 Airspeed Angle-of-Attack Indicator To supplied)

All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

> Bergst ject Engineer

6-115

RECEIVED

APR 21 '59

PROJECT SPEC. GROUP

JSB/is

Sold to:

Hughes Tool Company

Houston, Texas

Date:

3 April 1959

(a) TWA letter, SEO-910A-224, dated .

SO No:

880-1-223

Reference:

30 March 1959

WO No:

30,000 Series

(b) Commercial Change Proposal No. 254

(e) MCL No. 10,368

(d) D.I.B. No. 4. OLO

HUGHES TOOL COMPANY - CONVAIR 880

REVISED EXTERIOR MARKINGS AND COLOR SCHEWES

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our propoual, Reference (b), based upon MCL No. 10,368, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary rewised specification pages to the Contracts Department within four weeks (5/1/59) per Reference (d).
- (3) This change results in an increase in the guaranteed weight empty of the airplane of 21 pounds with no effect on performance or delivery schedule.

IM: bg

Log No: 854

C. C. Glaskov

Manager of Contractu

APR 1 3 '59

PROJECT SPEC. GROUP

C O N V A I R A Division of General Dynamics Corporation (San Diego)

THA MINUTES

8 April 1959 Revised 13 August 1959

> No. 188 22-1

Reference:

- (a) S.O. 880-1-223 dated 3 April 1959
- (b) Commercial Change Proposal No. 254

(c) MCL No. 10,368

(d) T. B. Eastland, Jr. memo to B. J. Simons, dated 10 August 1959

REVISED EXTERIOR MARKINGS AND COLOR SCHEMES

- I. TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based on Reference (c).
- 2. The following represents the marking and coloring, but shall not appear in the Specification language:

The prime coat is Pacific Paint and Varnish Company "Super Koropon 765." The epoxy finish cost is Andrew Brown Company "No.
A-423." The red and grey colors will match samples submitted with
TWA Letter No. 8808-350, dated 26 January 1959.

Markings will be applied in accordance with Convair Dug. 22-98001, revised as follows:

- a. Reduce height of TWA fleet number to five inches
- b. Increase height of forward "TWA" on the fuselage to 24 inches
- c. Provide Convair decal with clear background
- 3. This change results in an increase in the guaranteed Weight empty of twenty-one (21) lbs. with no effect on performance or delivery schedule.

4. Per Refronne (d), the heaten and of the spear sail the whose paint cheele be noved up five inches as requested by THA.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to contracts within four weeks of Sales Order date.

JSB: KVL: if

J. VS. Bergstrom Project Engineer Mail Zone 6-115

RECEIVED

AUG 14 '59

PROJECT SPEC, GROUP

SALES ORDER

CCPS 29

Sold tos

Hughes Tool Company

Date:

31 March 1959

Heaston, Texas

SO No:

880-1-222

Reference:

TWA letter, 880-903A-221, dated (a)

23 March 1959

WO No:

30,000 Series

(b) Commercial Change Proposal No. 257 (a) MCL Nr. 10,373

(d) D.I.F. No. 4.610

HUGHES TOOL COMPANY - CONVAIR 880

INSTALLATION OF GABLES G-825 TAPE REPRODUCER

- Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal Reference (b), based upon MCL No. 10,373, Reference (c). Accordlagly all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specifiatio pages to the Contracts Department within four weeks (4/28/59) per Reference (d).
- (3) This thange results in an increase in the aircraft guaranteed weight empty of 23 pounds with no effect on aircraft performance or delivery schedule.

WDW:bc

ag No:

C. G. Glasgow Manager of Contracts RECEIVED

APR 1 2 '59 PROJECT

SPEC. GROUP

Hughes Tool Company Sold to:

Dates 31 March 1959

Houston, Texas

SO No:

880-1-221

Raference:

(a) TWA letter, 880-905A-222, dated

WO No:

30,000 Series

25 March 1959 (b) Commarcial Change Proposal No. 265

(e) MCL No. 10,385

(d) D.I.B. No. 4.010

HUGHES TOOL COMPANY - CONVAIR 880

INSTALLATION OF MACH AND AIRSPEED "NEVER EXCEED" WARNING SYSTEM

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,385, Reference (c). Accordingly, all departments concerned are directed to proceed with im orporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specifi cation pages to the Contracts Department within four weeks (4/28/59) per Reference (d).
- (3) This change results in an increase in the guaranteed weight empty of the airgraft of six pounds with no effect on delivery schedule or performance. There is no effact on contract price.

WDW: be

Log Nos 808

for G. G. Glasgow Manager of Contracts

Hughes Tool Company Sold tos

Date:

25 March 1959

Houston, Texas

SO No:

880-1-220

Reference:

TWA letter, 880-9014-220, dated (a)

20 March 1959

WO No:

30,000 Series

(b) Commercial Change Proposal No. 258

(c) MCL No. 10,377 (d) D.I.B. No. 4.010

HUGHES TOOL COMPANY _ CONVAIR 880

NORDSKOG-TYPE INSTALLATION OF BUFFET WASTE CONTAINER.

Hughes Tool Company has accepted, as evidenced by Reference (a), our proposel, Reference (b), based upon MCL No. 10,377, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change cutlined in Reference (b) with the following contingency:

> "The waste container described in the change proposal will be physically interchangeable with the Nordskog waste container."

- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (4/22/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, dalivery achedule, or contract price.

WDW:bc

Log No: 780

for C. G. Glasgow Manager of Contracts

SALES ORDER

OPPS #29

Sold to: Hughes Tool Company

Date:

11 March 1959

Reference:

Houston, Texas

SO No:

88C-1-219

(a) TWA letter, 880-897A-219, dated 9 March 1959

(b) Commercial Change Proposal No. 263

WO No:

. 0.7

30,000 Series

(c) MCL No. 10,324

(d) D.I.B. No. 4.010

HUGHES TOOL COMPANY - CONVAIR 880

MACHINE COUNTERSINK IN ATTACHMENTS TO SUPPORTS

(1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,324, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b) with the following contingency

> "The machine countersink practice will be restricted to the cargo compartment side wall panels."

- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (4/8/59) per Reforence (d).
- (3) This change has no effect on aircraft guaranteel weight empty, performance, delivery schedule, or contract price.

WDW: be

Log No: 669

for C. G. Glasgow Manager of Centracts

C O N V A I R A Division of General Dynamics Corporation (San Diego)

TWA MUNUTES

17 March 1959

No. 184 22-1

Reference:

- (a) S. O. 880-1-219 dated 11 March 1959
- (b) Commercial Change Proposal No. 263

(c) MCL No. 10,324

MACRITUR COUNTERSIDE IN ATTACHMENTS TO SUPPORTS

- 1. THA has accepted, as evidenced by Reference (a), our Proposal, Reference (b) based on Reference (c).
- 2. This change has no effect on guaranteed weight empty and performance.

AFTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

JEB:KVL:18

Project Engineer 5-115

RECEIVED

MAR 7 0 '59 PROJECT SPEC. GROUP

CONVAIR-SAN DIEGO

CEP5 29

Sold to:

Hughes Tool Company

Houston, Texas

SO No:

6 March 1959

Reference:

(a) TWA letter, 880-895A-218, dated

3 March 1959

WO No:

880-1-218

30,000 Series

(b) Commercial Change Proposal No. 255

(c) MCL 10,372

(d) D.I.B. No. 4.010

HUGHES TOOL COMPANY - CONVAIR 880

CHANGE IN NOMENCLATURE OF AIR TEMPERATURE INDICATOR

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,372, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change cutlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (4/3/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

WDW: be

Log No: 639

for C. G. Glasgew Manager of Contracts RECEIVED

MAR 12'59

PROJECT SPEC. GROUP

CONVAIR A Division of General Dynamics Corporation (San Diego)

TWA MINUTES

11 March 1959

No. 183 22-1

Reference:

- (a) 8. 0. 880-1-218 dated 6 March 1959 (b) Commercial Change Proposal No. 255

(c) MUL No. 10,372

CHARGE IN NUMERICATURE OF AIR TEMPERATURE INDICATOR

- 1. THA has accepted, as evidenced by Reference (a) our Proposal Reference (b), based on Reference (c).
- 2. This change has no effect on aircraft guaranteed weight.

ACTION: All concerned are suthorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

JSB:KVL:im

B.

Project Engineer

RECEIVED

MAR 16'59 PROJECT SPEC. GROUP

CONVAIR-SAN DIEGO

SALES ORDER

0000 ZG

Sold to: Hughes Tool Company

Dates

3 March 1999

Houston, Topss

SO Mo:

880-1-217

References

(a) TWA letter, 880-891A-217, dated

WO Not

30,000 Series

27 February 1959 (b) Commercial Change Proposal No. 256

(c) MCL No. 10,323

(d) D.I.B. No. 4.010

HUGHES TOOL COMPANY - CONVAIR 880

CLARIFICATION OF SPECIFICATION LANGUAGE IN PARAGRAPHS 3.17.1.1, 3.17.3.1.1 & 3.17.3.5.2

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our specification administrative change, Reference (b), based upon MCL No. 10,323, Reference (c). Accordingly, all departments concerned are directed to proceed with insorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (3/31/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

WDW:be

Log No: 607

for C. G. Glasgos Managar of Contracts RECEIVED

MAR 9'59

PROJECT SPEC. GROUP

CONVAIR A Division of General Dynamics Corporation (San Diego)

TWA MINUFES

11 March 1959

No. 182 22-1

Reference:

(a) S. O. 880-1-217 dated 3 March 1959
(b) Commercial Change Proposal No. 256
(c) MCL No. 10,323

CLARIFICATION OF SPECIFICATION LANGUAGE IN PARAGRAPHS 3.17.1.1, 3.17.3.1.1 and 3.17.3.5.2

- 1. TWA has accepted as evidenced by Reference (a), our change, Reference (b) based on Reference (c).
- 2. This change has no effect on aircraft guaranteed weight empty and performance.

ACTION: All concerned are authorized to proceed with the above. Specificstions Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

JEB: KVL:1s

Project Engineer 6-115

RECEIVED

MAR 16'59 PROJECT SPEC. GROUP

SALES CRIER

Sold to: Highes Tool Company

Dates 19 February 1959

Houston, Texas

SO Nos

880=1=216

References

(a) TWA TWX, 880-887A-216, dated 19 February 1999

WO Nos

30,000 Series

(b) Commercial Change Proposal No. 245

(a) MCL No. 10,366

(d) D.1.B. No. 4.010

HUGHES TOOL COMPANY - CONVAIR 880

INSTALLATION OF FLUSH BUFFET DOOR LATCHES

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,366, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (3/19/59) per Reference (d).
- (3) This change results in an increase in the aircraft guaranteed weight empty of one pound with no effect on performance or delivery schedule.

FOR ACCOUNTING DEPARTMENT ONLY

WEWabe

Leg No:

For G. G. Glasgow tanager of Contracts

CONVAIR -A Division of General Dynamica Corporation (Sen Diego)

TWA MINUTES 25 Feb. 1959

No. 180 22-1

Reference:

(a). S. O. 880-1-216 dated 19 Feb. 1959 (b). Commercial Change Proposal No. 245 (c). MCL No. 10,366

INSTALLAUTOR OF FLURE BUFFET DOOR LATCHES

- TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based on Reference (c).
- 2. This change results in an increase in the aircraft guaranteed weight empty of one pound with no effect on performence.

All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four ACTION: weeks of Sales Order Date.

JEB: KVL:18

Project Engineer 6-115

RECEIVED

MAR 2'59 PROJECT SPEC. GROUP

CONVATHESAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company

Houston, Texas

Date: 18 February 1959 *Revised: 24 February 1959

SO No:

880-1-215

Reference:

(a) TWA letter, 880-883A-215, dated

12 February 1959

WO No:

30,000 Series

(b) Commercial Change Proposal No. 242

(c) MGL No. 10,321

(d) D. I.B. No. 4,010

CONVAIR 880 - HUGHES TOOL COMPANY

CHANGE AISLE WINTH FROM 28 TO 24 INCHES

- (1) Hughes Took Company has accepted, as evidenced by Reference (a), our proposal, Heference (b), based upon MCL He. 10,321, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (3/18/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

WDWith

Log No. -491-543

*Rev. to correct CCP No.

Wolfer & Gloom

for C. G. Glasgow Manager of Contracts

CONVAIR A Division of General Dynamics Corporation (San Diego)

TWA MUNUTES

27 Feb. 1959

Revised 3-6-59

No. 181 22-1

Reference:

(a). 5. 0. 880-1-215 dated 18 February 1959
(b). Commercial Change Proposal No. 242 452
(c). MIL No. 10,321

CHANGE ATELE WIDTH FROM 28 TO 24 INCHES

Specification Administrative Change

- 1. TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based on Reference (c).
- 2. This change has no effect on guaranteed weight empty and performance.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

JSB: KVL:18

Project Engineer 6-115

> RECEIVED MAR 11 '59 PROJECT

SPEC. GROUP

CONVAIR-SAN DIEGO

SALES ORDER

Sold tos Hughes Tool Company Datas 13 February 1959

Houston, Texas

SO Nos

880-1-214

References

(a) TWA letter, 880-877A-213, dated

11 February 1959

WO No:

30,000 Series

(b) Commercial Change Proposal No. 251

(c) MCL No. 10,320

(d) D.I.B. No. 4,010

CONVAIR 880 - HUGHES TOOL COMPANY

CHANGE JACK PAD ADAPTERS FROM AAF TO MS_TYPE

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our prorosal, Reference (b), based upon MCL No. 10,320, Reference (a). Accordingly all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (3/13/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

WDW:ba

Log No: 447

C. G. Glasgow Manager of Contracts

CONVAIR-SAN DIEGO

SALES ORDER

Sold to:

Hughes Tool Company

Houston, Tooms

Dates

13 February 1959

SO No:

880-1-213

Reference:

(a) TWA letter, 880-878A-214, dated 11 February 1959

WO No:

30,000 Series

(b) Commercial Change Proposal No. 249 (e) MCL No. 364

(d) D.I.B. No. 4.010

CONVAIR 880 - HUGHES TOOL COMPANY

DELETION OF CUSTOMER VENDED EQUIPMENT

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,364, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Referense (b)
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (3/13/59) per Reference (d)
- (3) This change has no effect on aircraft guaranteed weight empty, performance, or delivery schedule,

WDW:be

Log No: 448

Manager of Contracts

CONVAIR A Division of General Dynamics Corporation (San Diego)

TWA MINUTES

18 Feb. 1959

#178

Reference:

(a). 8. 0. 880-1-213 dated 13 February 1959 (b). Commercial Change Proposal No. 249 (c). MCL No. 10,364

DELEVIOR OF CRETORIES VENDED EQUIPMENT

1 ..

- 1. THA has eccepted, as evidenced by Reference (a), our Proposal, Reference (b), based on Reference (c).
- 2. This change has no effect on aircraft weight empty or performance.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

JEB: RVL:16

RECEIVED

FEB 20 '59

PROJECT SPEC.

UNIATH BAR DARES

old :

Hughes Fool company

Hauston, Texas

Date: 12 February 1969

SO Nos

380-1 212

Hafferta CO1

(a) TWA letter, 880-874A-212, dated 6 February 1959 (c) Commercial Change Proposal No. 264

(c) HGL No. 10,365 (d) D.I.I. No. 4.010

30,000 Sarlus WO Ners

CONVAIR 880 - HU HES TOOL COMPANY

INSTALLATION OF NORDSKOG EUFFET OVENS

- to trunce (b), based upon MCL No. 10,365, Reference (c). Accordingly, Li martnesses concerned are directed to proceed with the change cutlined in beforence by with the following exception: The carrier to be used in the I down is to be a 21-most marrior identical to those meed in the lo. A red lio. 2 semas
- () Mig n erin Specification Section will forward necessary revised specificaon pages to the Coutrasts Department within four weeks (3/12/59) per Referm que (d).
- (3) This charge has no offect on aircraft guaranteed weight empty, performance, delivery schedule.

#

FEB 23 '59

PROJECT SPEC. GROUP

genon

CONVAIR-SAN DIEGO

SALES ORDER

Sold to:

Hughes Tool Company

Houston, Texas

Date:

10 February 1959

Reference:

(a) TWA letter, 880-866A-210, dated

SO Not

880=1=211

WO No:

30,000 Series

3 February 1959

(b) Commercial Change Proposal No. 241

(c) MCL No. 10,316 (d) D.I.B. No. 4.010

CONVAIR 880 - HUGHES TOOL COMPANY

DELETE REFERENCE TO AILERON FROM PARAGRAPH 3,5,2,6

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our Specification Administrative Change, Reference (b), based upon MCL No. 10,316, Reference (c). Accordingly, all departments concerned are directed to procoed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (3/10/59) per Reference (d)
- (3) This change has no effect on guaranteed weight empty, aircraft performance, delivery schedule, or contract price.

WDWabe

Log Not 422

Cs G. Glasgow Manager of Contracts

RECEIVED

FEB 12 '59

PROJECT SPEC.

TWA MINUTES



16 Feb. 1.959

No. 177

Reference:

(a) S 0 80-1-211 dated 10 February 1959 (b) Commercial Change Proposal No. 241

(e) MCL No. 10,316

DELEVE REPEREZE TO ATTERCH FROM PARAGRAPH 3.6.2.6 OF SPECIFICATION

- 1. THA has accepted, as evidenced by Reference (a), our Proposal per Reference (b), based on Reference (c).
- 2. This change has no effect on guaranteed weight empty, aircraft performance, delivery schedule, or contract price.

ACTION: All concerned are authorized to proceed with the above Specifications Group to forward revised specification pages to Contracts within four weeke of Seles Order date

JSB: KVL:1s

Project Engineer

RECEIVED

FEB 17 '59

PROJECT SPEC.

CONVAIR A Division of General Dynamics Corporation (San Diego)



TWA MINUTES February 13, 1959 February 23, 1959

No 176

Reference: (a). S. O. 880-1-211 dated 12 February 1959

(b). Commercial Change Proposal No. 244

(e). MCL No 10,365 (d). D. I. B No. 4.010

INSTALLATION OF NORDSKOG BUFFET OVENS

- 1. THA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon Reference (c) Accordingly, all groups concerned are directed to proceed with the change outlined in Reference (b) with the following exception The carrier to be used in the No. 3 oven is to be a 24-meal carrier identical to those used in the No. 1 and No. 2 ovens.
- 2. This change has no effect on aircraft guaranteed weight empty, performance, or delivery schedule.

ACTION: All concerned are authorized to proceed with the above Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date, per Reference (d).

JSB:10

Project Engineer 6-115

RECEIVED

FEB 24 '59 PROJECT SPEC. GROUP

CONVAIR_SAN DIEGO

ACCOUNTING SALES ORDER

Seld to: Hughes Tool Company Houston, Texas Date: 31 March 1959

SO No:

880-1-210

WO No:

30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

CHANGE ORDER NO. 25

(1) Attached is a copy of Change Order No. 25 signed by Hughes Tool Company, which amends Datail Specification Report No. ZD-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change No. 170 on the Model 880 aircraft.

(2) The Change Order has been revised to delete revised illustrations on the following pages: 31A, 116B, 118C, 118D, and A-24A,

HON: bo

Lag No: 838

C. C. Clasgow
Hanager of Contracts

co: G. T. Beves (w/attach)
A. S. Braidic (w/attach)
880 Project Office (w/attach)
Commercial Sales (w/attach)
E. E. Johnson (w/attach)
H. A. Kayes (w/attach)
Contracts Staff Section

J. Deig (w/attach)
W. F. Brown (w/attach 2)
H. R. Kennedy (w/attach)
Sales Order File
Arthur Anderson & Co. (w/attach)
Change Order No. 25 File RECEIVED

CHANGE ORDER NO. 25 to HUGHES TOOL COMPANY Detail Specification Report No. ZD-22-002 Dated 1 June 1956, Revised 7 September 1956

- A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change No. 170 and Commercial Change Proposal Summary No. 24 attached hereto and made a part hereof.
- B. Airplanes Affected:

Undelivered - 30

G. Effect on weight and balance:

As reflected in Specification Change and Commercial Change Proposal Summary No. 24 attached.

D. Effect on performance:

As reflected in Specification Change and Commercial Change Proposal Summary No. 24 attached.

E. Effect on delivery:

None

- F. This Change Order results in the following charges and/or credits:
 - 1. Change No. 170 Cabin Interior Modification and 12-Place Club Area (Pages 1, 28, 3, 14, 344, 78, 81, 105, 106, 109, 111, 113, 114, 2283, RMR 2466, 2469, A-14, A-15, and A-244)

	Per A	Per Airplane		Total for 30 Airplanes	
Recurring Charge	. 9	4,000 NONE	\$	120,000 NONE	
Total Charges	\$	4,000	\$	120,000	

2. Summary of the foregoing charges and/or credits:

	Per Airplane	tal for Airplanes
Recurring Charge Non-recurring Charge	\$ 4,000 NONE	\$ 120,000 NONE
Total Charges	\$ 4,000	\$ 120,000

CHANGE ORDER NO. 25 to HUGHES TOOL COMPANY Detail Specification Report No. 20-22-002 Dated 1 June 1956, Revised 7 September 1956 G. The attached Specification Change No. 170 and Commercial Change Proposal Summary No. 24 are hereby incorporated into and become a part of Detail Specification Report No. ZD-22-002 dated 1 June 1956, Revised 7 September 1956。 H. Notwithstanding any other provisions of the Purchase Agreement and/or this Change Order No. 25 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order Nos. 23 and 24 as said Change Orders were executed by General Dynamics Corporation. In the event that said Change Order Nos. 23 and 24 are so executed by Hughes Tool Company, this Change Order No. 25 shall be considered in full force and effect. In the event said Change Order Nos. 23 and 24 are not so executed by Hughes Tool Company, this Change Order No. 25 shall be void and of no effect. I. Except as herein modified all provisions of the Detail Specification shall remain in effect. Accepted and agreed to day of February 1959. HUGHES TOOL COMPANY GENERAL DYNAMICS CORPORATION By R. W. Rummel By B. Coggan Title Vice President Title Special Representative Congrete Approved as to Legality & Form s. 1/8 1959 - 2 -

Sold to: Hughes Tool Company Houston, Texas Dates

27 January 1959

SO No:

880-1-209

WO No:

30,000 Series

CONVAIR 880 - HUGHES TOOL COMPANY

CHANGE CROER NO. 24

(1) Attached is a copy of Change Order No. 24 signed by Hughes Tool Company, which amends Datail Specification Report No. 2D-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change Nos. 91B, 128B, 181, 188, 189, 191, 199A, 203, 206, 205, and 210 on the Model 880 sireraft.

MDW:be

Leg No: 293

C. G. Glasgou Manager of Contracts

cos. 880 Project Office (w/attach 2)
Commercial Sales (w/attach)
H. A. Kayes (w/attach)
Contracts Steff Section (w/attach)
E. E. Johnson (w/attach)
J. Doig (w/attach)

W. F. Brown (w/attach 2)
H. R. Kennedy (w/attach)
Commercial Contracts
Arthur Anderson & Co. (w/attach)
Change Order No. 24 File RECEIVED

to

HUGHES TOOL COMPANY

Detail Specification Report No. ZD-22-002 Dated 1 June 1956, Revised 7 September 1956

- A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change Nos. 91B, 128B, 181, 188, 189, 191, 199A, 203, 204, 205, and 210 and Commercial Change Proposal Summary No. 23 attached hereto and made a part hereof.
- B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 23 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 23 attached.

E. Effect on delivery:

None

- F. This Change Order results in the following charges and/or credits:
 - 1. Change No. 91B VGH Recorders, Provisions for (Page 61)

No Charges or Credits

2. Change No. 128B - Miscellaneous Electronics Clarifications (Pages 90, 91, 92, 94, 95, 97, 98, 99, 100, 101, 102, and 104)

No Charges or Credits

3. Change No. 181 - Increase of Maximum Landing Weight (Pages 12, 19, and A-13)

Recurring Charge \$ NONE \$ NONE Non-recurring Charge \$ 985.00 \$ 29,550.00

RECEIVED

JAN 28'59

SPEC. GROUP

CHANGE ORDER NO. 24.

to

HUGHES TOOL COMPANY

Detail Specification Report No. ZD-22-002 Dated 1 June 1956, Revised 7 September 1956

F	4.	Change No. 188 - Battery, Change of From 24 to 27.5 Volts (Pages 66 and A-4)	No Charges or Credits
	5.	Change No. 189 - Low Energy Ignition System, Installation of (Page 78)	No Charges or Credits
	6.	Change No. 191 - Specification Administrative Change, Hat Rack Cancpy Length (Page 113)	No Charges or Credits
	7.	Change No. 199A - Flight Deviation Indi- cator, Revision to (Pages 56 and A-9)	No Charges or Credits
	8.	Change No. 203 - Spare Wiring in Electronic Rack, Installation of (Not to be a part of the specification language. No pages affected	Total for Per Airplane 30 Airplanes
		Recurring Charge Non-recurring Charge	\$ 76.00 \$ 2,280.00 141.00 4.230.00
		Total Charges	\$ 217.00 \$ 6.510.00
	9.	Change No. 204 - Specification Administrative Change, Stabilizer Trim Control (Page 40)	No Charges or Credits
	10.	Change No. 205 - Portable CO ₂ Bottle, Four Pound in Lieu of Five Pound (Page A-21)	No Charges or Credits
	11.	Change No. 210 - Specification Administra- tive Change, Static Selector Valves (Page	

RECEIVED

No Charges or Credits

JAN 28'59 PROJECT SPEC. GROUP

59)

CHANGE ORDER NO. 24 to HUGHES TOOL COMPANY Detail Specification Report No. ZD-22-002 Dated 1 June 1956, Revised 7 September 1956

F. 12. Summary of the foregoing charges and/or credits:

Accepted and agreed to

	Per Airplane	Total for 30 Airplanes		
Recurring Charges Non-recurring Charges	\$ 76.00	\$ 2,280.00 33,780.00		
Total Charges	\$ 1,202,00	\$ 36,060,00		

- G. The attached Specification Change Nos. 91B, 128B, 181, 188, 189, 191, 199A, 203, 204, 205, and 210 and Commercial Change Proposal Summary No. 23 are hereby incorporated into and become a part of Detail Specification Report No. 2D-22-002 dated 1 June 1956, Revised 7 September 1956
- Ho Notwithstanding any other provisions of the Furchase Agreement and/or this Change Order No. 24 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order No. 23 as said Change Order was executed by General Dynamics Corporation. In the event that said Change Order No. 23 is so executed by Hughes Tool Company, this Change Order No. 24 shall be considered in full force and effect. In the event said Change Order No. 23 is not so executed by Hughes Tool Company, this Change Order No. 24 shall be void and of no effect.
- I. Except as herein modified all provisions of the Datail Specification shall remain in effect.

This 21st day of January 1959.

HUGHES TOOL COMPANY GENERAL DYNAMICS CORPORATION

By R. W. Runnel By C. G. Glasgow RECEIVED

Title Special Representative Title Manager of Contracts

JAN ? 8 '59

CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company

Dates

27 January 1959

Houston, Texas

SO No:

880=1=208

References

(a) TWA letter, 880-861A-208, dated 22 January 1959

WO Not

30,000 Series

(b) Commercial Change Proposal No. 247

(e) MGL No. 10,318

(d) D.I.B. No. 4.010

CONVAIR 880 - HUGHES TOOL COMPANY

DESIGNATION OF SERVICE INTERPHONE STATIONS

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,318, Reference (c). Accordingly, all departments concerned are directed to proceed with the change cutlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (2/17/59) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, aircraft performance, delivery schedule, or contract price.

WDW: be

Log No: 300

C. G. Glasgow Manager of Contracts

COHVAIR A Division of General Dynamics Corporation (San Diego)

THA MANETURS

NO. 174 22-1

Reference:

- (a). S. O. 880-1-208 dated 27 January 1959
 (b). Commercial Change Proposal No. 247

MCL No. 10,318

1. DESIGNATION OF HERVICE INTERPROVE STATIONS: (Specification Administrative Change)

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon Reference (c)

2. DESCRIPTION OF CHARGE

Page 99, Paragraph 3.17 2.3.5 SERVICE INTERPHONE:

Revise the following items in interphone station list as follows:

"6. Forward and Aft Ends of Forward Cargo Compartment From:

7. Forward and Aft Ends of Aft Cargo Compartment"

"6. Hydraulic Compartment To:

7. Air-Conditioning Compartment"

3. This change has no effect on guaranteed weight empty, aircraft performance, delivery schedule, or contract price.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

JSB:KVL:is

Project Engineer

RECEIVED

FEB 6 '59

PROJECT SPEC.

Sold to: Hughes Tool Company

23 January 1959

Houston, Texas

SO No:

Date:

880-1-207

Referense:

(a) TWA letter, 880-858A-206,

WO Not

30,000 Series

dated 20 January 1959

(b) Commercial Change Proposal No. 239 (c) MCL No. 10,363

(d) D.I.B. No. 4.010

CONVAIR 880 - HUGHES TOOL COMPANY

DUAL DISTANCE MEASURING EQUIPMENT TACAN, INSTALLATION OF

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,363, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b) with the following exceptions:
 - The Item denoted Page 86, Paragraph 3.16.17 on Page 1 of the CCP has been revised to read "Distance Measuring Equipment Tacan (No. 1 Equipment)."
 - b. The item on Page A=5, Appendix I=C, on Page 2 of the CCP has been revised to read "2 Transponders, Federal, Type AFN=3544A."
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (2/13/59) per Reference (d).
- (3) This change results in a weight increase of 67 pounds per aircraft with no effect on delivery schedule or aircraft performance.

WDW:be

Log No: 298

Manager of Contracts

COHVAIR A Division of General Dynamics Corporation (San Diego)

TWA MIRUTES

Revined 3 Harch I 9 5 9

No. 175 22-1

Reference: (a). 6. 0. 880-1-207 dated 23 January 1959

(b). Commercial Change Proposal No. 239

(c). MCL No. 10,363

1. DUAL DISTANCE MEASURING EQUIPMENT TACAN, INSTALLATION OF

TWA has accepted as evidenced by Reference (a), our Proposal, Reference (b), based upon Reference (c).

- 2. Specification shall be revised in accordance with Reference (b).
- 3. TASK IE AS FOI TOWS:
 - A. Install (1) INST Indicator in the pilot's and co-pilot's penel. (Federal Type T8510-11M Single System presentation indicator)
 - B. Instruments are interchangeable
 - C. Install (1) black box in right-hand and left-hand shelf of radio rank. (Federal Type AFN-3544Atransponders)
 - D. Remove cover plate and install #1 antenna (IB-147) on upper fuselage.
 - E. Remove cover plate and install #2 antenna (LB-147) on lover fuselage.
 - F. Bench check and pre-flight check equipment

This change results in a weight increase of 67 pounds per aircraft with no effect on delivery schedule or sircraft performance.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date. AESI's to be written one (1) week after receipt of these winutes. Huginearing to be off board (5) five weeks after receipt of these minutes.

S. Bergstrom Project Engineer

JSB:KVL:in

RECEIVED

MAR 1 0'59 PROJECT SPEC. GROUP

CONVAIR SAN DIEGO

Sold To: Hughes Tool Company Houston, Texas

Reference: (a) Job #130158

SALES ORDER

Date: 21 March 1960

SO No: 880-1-206

WO No: 30,021 Series

INSTALLATION OF 6 KW HEATER IN BUILDING 37

- (1) This Sales Order authorizes the immediate installation of subject heater in that portion of Building 37 designated and especially constructed to serve as a Hughes Tool Company office.
- (2) The heater is to be installed per the special ground rules governing storage of fueled aircraft.

DDA:kz

Log No: 883

L for D. H. Digges Manager of Contracts Sold to: Hughes Tool Company

hes Tool Company

Houston, Texas

S) No: 880-1-206

Reference: (a) TWA letter, 880-856A-204,

dated 19 January 1959

WO No:

Dates

30,000 Series

22 January 1959

(b) Commercial Change Proposal No. 242

(c) MCL No. 10,317 (d) D.I.B. No. 4.010

CONVAIR 880 - HUGHES TOOL COMPANY

PROVIDE ASSIST ROPES IN FLIGHT COMPARTMENT

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,317, Reference (c). Accordingly, all departments concerned are directed to proceed with the change cutlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (2/12/59) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, airplane performance, delivery schedule, or contract price.

WDW: be

Log No: 294

C. G. Glasgow Manager of Contracts

CONVAIR A Division of General Dynamics Corporation (San Diego)

Fritze

TWA MINUWES

27 January 1959

No. 173 22-1

Reference:

(a). S. O. 880-1-206 dated 22 January 1959
(b). Commercial Change Proposal No. 242

MUL No. 10,317

1. PROVIDE ASSIST ROPES IN FLIGHT COMPANYMENT

Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MIL No. 10,317, Reference (c).

Description of Change:

Page 118 (Cont), Paragraph 3.19.6.3 - EVACUATION PROVISIONS:

Revise the first sentence as follows:

From: "Suitable means shall be provided for assisting repid evacuation from emergency exits, including assist ropes as exits over the wing end at the forward main entrance door."

"Suitable means shall be provided for assisting rapid To: evacuation from emergency exits, including assist ropes at exits over the wing and over left and right hand windows in flight compartment. In addition, crew assist ropes shall be provided at the forward main entrance door."

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

> Am J. B Bergstron Project Engineer

JBB: JMC:18

RECEIVED

JAN 28'59

PROJECT SPEC. GROUP

CONVAIR SAN DIEGO

SALES ORDER

Sold to:

Hughes Tool Company

Houston, Temas

Dates

21 January 195

Reference:

(a) TWA letter, 880-857A-205,

SO No:

880-1-205

dated 19 January 1959

WO Nor

30,000 Series

(b) Commercial Change Proposal No. 243 (c) MCL No. 10,35%

(d) D.I.B. No. 4.010

CONVAIR 880 - HUGHES TOOL COMPANY

PLACARDING OF COURSE DEVIATION INDICATOR

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,354, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (2/11/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, airplane performance, delivery schedule, or contract price.

WDW:ba

Log No: 289

G. Glasgow Manager of Contracts RECEIVED

JAN 26'59

PROJECT SPEC. GROUP

C O H V A I R A Division of General Dynamics Corporation (San Diego)

TWA Minutes 27 January 1959

> No. 172 22-1

Reference: (a). S. O. 880-1-205 dated 21 January 1959

(b). Commercial Change Proposal No. 243

(c). MCL No. 10,354

1. PLACARDING OF COURSE DEVIATION INDICATOR

Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,354, Reference (c).

Description of Change:

Page 56, Paragraph 3.14.1.1 PILOT's INSTRUMENTS:

Change the ninth item in instrument list as follows:

From: "One flight path indicator"

To: "One course deviation indicator (placerded "flight path indicator")"

Page 56, Paragraph 3.14.1.2 COPILOT's INSTRUMENTS:

Change the eighth item in instrument list as follows:

From: "One flight path indicator"

To: "One course deviation indicator (Placarded "flight path indicator")"

ACTION: All concerned are suthorised to proceed with the above. Specifications Group to forward revised specification pages to Contracts

within four weeks of Sales Order date.

JBB: JBC:is

J. S. Bergstrom
Project Engineer

RECEIVED

JAN 28'59 PROJECT SPEC. GROUP CONVAI - SAN DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughen Tool Company Houston, Texas Date: 20 January 1999

SO No:

880-1-204

WO No:

30,000 Series

CONVAIR 880 - HUGHES TOOL COMPANY

CHANCE CRUER NO. 23

(1) Attached is a copy of Change Order No. 23 signed by Hughes Tool Company, which amends Detail Specification Report No. ZD-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change No. 196 on the Model 880 aircraft.

WDW: bez

Log No: 201

C. G. Glasgow Manager of Contracts

880 Project Office (w/attach 2)
Commercial Sales (w/attach)
H. A. Keyes (w/attach)
Contracts Staff Section (w/attach)
E. E. Johnson (w/attach)
J. Doig (w/attach)

W. F. Brown (w/attach 2)
H. R. Kennedy (w/attach)
Commercial Contracts
Arthur Anderson & Co. (w/attach)
Change Order No. 23 File
RECEIVED

JAM 21 '59

CCPS #27

fold to: Hughes Tool Company

Howston, Texas

Date: 8 January 1959
*Revised: 10 February 1959

90 No:

880-1-203

hardr gloot.

(a) Commercial Change Proposal No. 226

(b) ML No 10,358

WO No: 30,000 Series

(e) D.I.B. No. 4.010

(d) TWA letter, 880-864A-209, dated-3 February 1959

HUBHES TOOL COMPANY - CONVAIR 880

CREW SUPPLEMENTAL OXYGEN MASK - CHANGE TO PURITAN TYPE

- (1) Hugher Tool Company has indicated its firm intention of accepting the subject top. In order to preclude factory and procurement delay, this Sales Order authorises all departments conserned to proceed with the change sutlined in Reference (a).
- The reinearing Specification Section will forward negaster, review speci-
- This Sales Order will be medified as necessary upon completion of contractual
- (4) By Reference (d) Hughes Tool Company has accepted the subject CCP. This proposal results in an increase in the aircraft guaranteed weight empty of one pound and has no effect on performance, delivery schedule, or contract price.

Note CCP 226A reduces weight from 4 to 1 eb.

WOW: be

May 421

*Rev. to add Ref (d), delete Para. (2), and add Para. (4).

C. G. Glassow Manager of Contracts

C O N V A I R A Division of General Dynamics Corporation (San Diego)

THA MINUTES

12 January 1959
Revised 12 Feb 19,9 (KVL)

No. 171 22-1

Reference:

(a). S. O. 880-1-203 dated 8 January 1959, Revised 10 Feb 1959

(b). Commercial Change Proposal No. 226

(c). MCL No. 10,358

1. Crew Supplemental Oxygen Mask-Change to Puritan Type

Reference (b) CCP. In order to preclude delay in procurement, Reference (a), Sales Order authorizes all concerned to proceed with this change.

Description of Change:

Pege 118, Paragraph 3.19.5.5 MASKE:

In the first line, change "four" to "three".

Page A-18, APPENDIX I-C, OXYGEN SYSTEM:

Add the following item to the Description List:

"3 Oxygen Mask Assembly (Crew Supplemental) Puriten

114020"

This change results in an increase in the guaranteed weight empty of hy (one) 1 pound, per aircraft.

ACTION: All concerned are enthorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS: JMC:18

A. J. Severd Project Engineer

RECEIVED

FEB 17 '59

SPEC. GROUP

SALES ORDER

ec PS #

Sold to:

Hughes Tool Company

Date:

6 January 1959

Houston, Texas

SO No:

880-1-202

Reference:

(a) TWA letter, 880-846A-199, dated 30 December 1958

WO No:

30,000 Series

(b) Commercial Change Proposal No. 237

(c) MCL No. 10,361 (d) D.I.B. No. 4,010

CONVAIR 880 - HUGHES TOOL COMPANY

INSTALLATION OF SPARE WIRING - CONDUIT

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,361, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (1/27/59) per Reference (d).
- (3) This change results in an increase in the guaranteed weight empty per sireraft of five pounds with no effect on airplane performance or delivery schedule.

Leg No: 170

Soles Order 880-1-199 not issued

CONVAIR-SAN DIEGO

SALES ORDER

Sold to:

Hughes Tool Company

Houston, Texas

SO No:

Date: 16 December 1958 880-1-198

Reference:

(a) TWA TWX, 880-839A-198, dated 12/12/38

(b) Commercial Change Proposal No. 222

WO No:

30,000 Series

(c) MCL No. 10,295 (d) D.I.B. No. 4,010

CONVAIR 880 - HUGHES TOOL COMPANY

INCORPORATION OF AUDIBLE ALTITULE WARNING SIGNAL

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,295, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (1/13/59) per Reference (d).
- (3) This change results in an increase in the guaranteed weight empty of the aircraft of one pound with no effect on performance or delivery schedule.

RECEIVED

DEC 19'58

PROJECT SPEC. GROUP

Log No: 5561

A Division of General Dynamics Corporation (San Diego)

TWA MINUTES 18 December 1958 This

No. 167

Reference:

(a) S.O. 880-1-198 dated 16 Documber 1998

(b) Commercial Change Proposal No. 222

(c) MCL No. 10,295

1. INCORPORATION OF AUDIBLE ALITITUDE WARNING STURAL

Hughes Tool Company has excepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL 10,29% reference (c).

Description of Change:

Page 80, Paragraph 3.16.11.1 LANDING GEAR AND STABILIZER WARNING HORN:

Revise the paragraph title to read as follows:

"LANDING GEAR, STABILIZER AND CABIN ALTITUDE WARNING HORN:"

Add the following sentence to the end of the paragraph:

"The warning horn shall also be utilized to give a warning signal in event of a cabin pressurisation failure. A celector switch shall be provided to isolate the horn from the other systems when the alarm is actuated for cabin altitude warning only."

Page 125, Paragraph 3.20.3.1 PRESSURIZATION:

Ald the following sentence to the end of the paragraph:

"An audible warning signal shall be provided to indicate a cabin pressuritation failure, as defined in Paragraph 3.16.11.1."

This change results in a weight empty increase of one pound per simplane.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

A. J Savard Project Engineer RECEIVED

DEC 19'58
PROJECT
SPEC.

GROUP

AJS: JMC: rb

CONVAIR-SAN DIEGO

Brun 1722

SALES ORDER

Ceps 427

Sold to:

Hughes Tool Company

Houston, Texas

Date:

5 December 1958

380-1-197

Reference:

(a) TWA TWX, 880-825A-196, dated

5 December 1958

WO No: 30,000 Series

(b) Commercial Change Proposal No. 208

(c) MCL No. 10,281

(d) D.I.B. No. 4.010

CONVAIR 880 - HUGHES TOOL COMPANY

MACH TRIM PROVISIONS, KOLLSMAN INTECRATED FLIGHT INSTRUMENT SYSTEM CONTROL CHASSIS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,281, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (1/2/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, or delivery schedule.

WDW:be

Log No: 5506

Manager of Contracts

DEC 8'58

PROJECT SPEC: GROUP

W & Sitzsimmons CONVAIA A Division of General Dynes . 23 Corporation (San Diego) TWA MUNUTES 10 December 1958 No. 165 22-1 Ref: (a) Sales Order No. 880-1-197 dated 5 December 1958 (b) Commercial Change Proposal No. 208 (c) MCL No. 10,281 Mach Trim Provisions, Kolleman Integrated Flight Instrument System Control Chassis TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,281, Reference (c). The task is as follows: A. Kollsman to provide mach trim provisions in the Co-pilot static system computer module. The computer module to be interchangeable with the module presently installed in the pilot's system. B. As the co-pilot's mach trim provisions will not be connected, there will be no Convair task for wiring Existing specification control drawing can be revised and a pre-release copy available three weeks after go-ahead. ACTION: All concerned are directed to proceed with the incorporation of subject change J. Savard Project Engineer AJS:JMC:is RECEIVED DEC 11'58 PROJECT SPEC. GROUP

SALES ORDER

Sold to:

Hughes Teel Company

Houston, Toxas

Dates

6 January 1959

SO No:

880-1-201

Roforence:

(a) TWA letter, 880-847A-200, dated

WO No:

30,000 Series

29 December 1958 (b) Commercial Change Proposal No. 236

(c) MCL No. 10,359 (d) D.I.B. No. 4.010

CONVAIR 880 - HUGHES TOOL COMPANY

COLLINS 416N-5 POWER SUPPLY

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,359, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (1/27/59) per Reference (d).
- (3) This change has no offect on aircraft guaranteed weight empty, airplane performance, or delivery schedule.

eg Na: 1.50

C O N V A I R A Division of General Dynamics Corporation (See Diego)

TWA MINUTES

7 January 1959

№. 169 22-1

Reference: (a). S. O. 880-1-201 dated 6 January 1958

(b). Commercial Change Proposal No. 236

(c). MCL No. 10,359

1. COLLINS 416N-5 POWER SUPPLY

Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,359, Reference (c).

Description of Change:

Page A-5, APPENDIX I-C, ELECTRONIC EQUIPMENT:

Change the third item under "VHF NAVIGATION SYSTEM" as follows:

From: "2 Power Supply (416N-5) Collins 505-3706-013"

To: "2 Power Supply (416N-5) Collins 505-3706-003"

ACTION: All concerned are authorized to proceed with the above. Specifica-

tions Group to forward revised specification pages to Contracts

within four weeks of Sales Order date.

AJS: JMC:is

A. J. Savard Project Engineer

RECEIVED

JAN 12'59

PROJECT SPEC. GROUP

CONVAIR-SAN DIEGO

SALES ORDER

Hughes Tool Company Sold to:

Houston, Taxas

Date:

6 January 1959

SO No:

880-1-200

Rafarence:

(a) TWA letter, 880-848A-201, dated 29 December 1958

WO No:

30,000 Series

(b) Commercial Change Proposal No. 2%

(e) MCL No. 10,360

(d) D.I.B. No. 4.010

CONVAIR 880 - HUGHES TOOL COMPANY

HF COMMUNICATION EQUIPMENT, CHANGE FROM INSTALLATION TO PROVISIONS

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,360, Reference (c). Accordingly, all departments concerned are directed to proceed with the change cutlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Centraets Department within four weeks (1/27/59) per Reference (d).
- (3) This change results in a decrease in the guaranteed weight capty of the airgraft of 86 pounds with no effect on airplane parformance or delivery schedule.

WDWaba

Log No: 149

CONVAIR A Division of General Dynamics Corporation (San Diego)

TWA MINITIES

7 Jenuary 1959

No. 168 22-1

Reference (a). S. O. 880-1-200 dated 6 January 1958

(b). Commercial Change Proposal No. 234 (c). MCL No. 10,360

1. HF Communication Equipment, Change from Installation to Provisions

Hughes Tool Company has accepted, as evidenced by Reference (a), cur Proposal, Reference (b), based upon MCL No. 10,360, Reference (c). A copy of the proposal is attached.

ACTION: All concerned are suthorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

This change results in a decrease in the airplane weight empty of 86 pounds per airplane.

AJB:JMC:is

RECEIVED

JAN 1 2 '59

PROJECT SPEC. GROUP

Sold to:	Husbes Tool Company Houst m. Texas	Detes December 1998 *Rovised: 22 December 1998
Reference:	(a) TWA TWX, 580-823A-193, dated	SO No: 880-1-196
-artualistikulus (kija tako karon et astalaan et ka	1 Desember 1958 (b) CCP No. 228, MCL No. 10, 306 (c) CCP No. 232, MCL No. 10, 310 (d) CCP No. 231, MCL No. 10, 309 (e) CCP No. 230, MCL No. 10, 308 (f) CCP No. 978, MCL No. 10, 137 (g) CCP No. 1748, MCL No. 10, 155 (h) CCP No. 142, MCL No. 10, 175 (i) TWA letter, 880-829A-177, deted	WO No: 30,000 Series

MODEL 850 - HUGHES TOOL COMPANY

PASSENGER SEAT PROPOSALS

- (1) Hughes Tool Company has allowed our proposal, Reference (h), "Customer Furmished Passenger Seats," to expire. Accordingly, Convair will provide the passenger seats in the Hughes Tool Company Model 880 aircraft.
- (2) Incidental to selecting the Convair proposed seat, Hughes Tool Company has assopted proposals (h) through (g) with certain modifications. Accordingly, all departments are directed to proceed with the changes outlined in Referunces (b) through (g) with modifications as set forth below.
 - n. CCP No. 231 Muslin Sub-Covers

This proposal is modified to reflect installation of muslin sub-covers on the seat backs only, the cover to be glued rather than elipsover. The weight increase is to be 22 pounds per airplane rather than 36

15 Me 378 lot agral, Folding Food Trays Per Maierence (i) TWA has approved a weight increase of 143 lbs. which Haghe - Tool company does not decire, at this time, the sever plate for the mbears a rem of sasts the southingly, the weight increase of if period shown on the CR is hereby reduced to 445 periods. includes the weight of cover panels on the rear row seats.

1 A epting of the proposes results in an increase in the guaranteed weight the all plane as not forth below.

				Steward on Step		Lbs.
						Lbsa
				Mua in Sub-Covers		Lbs.
d -	260	Noz	230 -	rach Energy Absorber	44	Lbs
0.	UC	No	37F -	lategral Folding Food Trays 148	11 / 4	Lba.
ſ	GCP	Na	1.04B =	12 Inch Seat	8,3	Ibs.

Total Weight Per Airgraft

488 Ubs.

FAIRS THE LAND BY

Regland: 8 Juneary 1979

Ravised: 22 Decemb r 1

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The Neth Period 30 of the A.

7-125, FCt No. 27, 384

We will be to the transfer of the transfer of

N 9 MIL No. 10, 13 N 9 MIL No. 10, 17

TWA let or, \$50-829A-197, dated 12/5/58

MITTEL 880 - MICHES TOOL C MPANY

PASSEMBER SEAT PROFESALS

of the terminal of the terminal of the terminal of delivery asheld a

of Live and 1958, with examptions as set forth in

ted telf to certain price schedules for ceach a ata,
licenstand two subscentractor to sell open parts
rtain other naidentals of the passenge:
licenstand two passenges
are the passenges
are the

orless in Page. (7)

are (2)(b) and Para (3)

Marager of Contension

CONVAIR A Division of General Dynamics Corporation (San Diego)

TWA MENUTES

4 December 1958

No. 164 22-1

Reference:

(a) S.O. 880-1-196 dated 3 December 1958 (b) Commercial Change Proposal No. 228, MCL No. 10, 306 (c) CCP No. 232, MCL No. 10,310

(a) CCP No. 231, MCL No. 10,309

CCP No. 230, MCL No. 10,308

(r) CCP No. 97B, MCL No. 10,137

CCP No. 104B, MCL No. 10,155

CCP No. 142, MCL No. 10,175

1. PASSENGER SEAT PROPOSALS

- A. Hughes Tool Company has allowed our Proposal, reference (h), "Customer Furnished Passenger Seats", to expire. Accordingly, Convair will provide the passenger seats in the Highes Tool Company Model 22 aircraft.
- B. Hughes Tool Company has accepted, as evidenced by reference (a), our proposals (b) through (g), with modification as set forth below:
 - 1) CCP No. 231 Muslin Sub-Covers

This proposal is modified to reflect installation of muslin sub-covers on the seat backs only, the cover to be glued rather than slipcover. The weight increase is to be 22 pounds per airplane rather than 36 pounds.

2) CCP No. 97B - Integral Folding Food Trays

Euros Teel Coursey does not desire, of this time, the cover plate for the indeed of res of sects. Accordingly, the weight increase of 148 peuple chesa in CCP 978 is horoby relaced to 145 peuple.

C. Acceptance of these proposals results in an increase in the guaranteed weight empty of the airplane as set forth below.

29 Lba. 1) CCP No. 228 - Stewardess Step 162 Lbs. 2) CCP No. 232 - Adjustable Head Rost 3) CCP Ho. 231 - Muslin Sub-Covers 4) CCP Ho. 230 - Crush Energy Absor 22 lbs. 44 Lbo. OCP Ho. 230 - Crash Energy Absorber 145 Iko. 148 Imm CCP No. 97B - Integral Folding Food Trays 5) CCP No. 978 - Integral 2 CCP No. 1058 - 52 Inch Seat 83 Ibo.

Total Weight Per Aircraft

485 Ibs. 488 11s.

D. Revisions to the passenger seat shown to Hughes Tool Company in Kansas City on 21 November 1958 shall be in accordance with their comments submitted by their message, 12-1, of 1 December 1958, with exceptions as ECEIVED set forth in reference (a).

ACTION: All concerned are authorized to proceed with the above task in accordance with the attachment to these minutes.

DEC 31'58

PROJECT

SPEC. Savard, Project Engined ROUP

ATTACHMENT TO TWA MINUTES #164 Hodel 22-1 (Cabin Pessenger Sests and Related CCP°s)

The design must incorporate all items contained in the memo, Project Office to Furnishings Group, (Mellinger/Beckett) dated 28 November 1958, "Design Revisions to Cabin Passenger Seats Prior to Production Engineering Model 22." Customer communts in accordance with Item 1D of the TWA Himstes \$1.64 from TWA message 12-1 dated 1 December 1958 are as follows. Where there may be a conflict between the TWA memo and the Project Office memo, the TWA memo shall have priority. Project Office comments are contained in parenthesis beside the conjectural items noted below:

Under MCL 10,310 the Furnishings Group has 300 hours which shall be used to lay out the revision to the adjustable head rest in order to meet CAA delethalization requirements in addition to providing full time coordination during the seating vendor's production engineering program. It is absolutely mandatory that no delays to production engineering be incurred which could be chargeable to Convair's Engineering Department. The production engineering phase is scheduled for completion 60 calendar days subsequent to 8 December 1958.

The THA comments follows

A. CUHHIOMS

1. Seat cushioning material should be interchangeable in all bottoms however, Item 2 will make assemblies non-interchangeable.

2. Seat upholstery to have localing and outside flaps to fasten under seat for more lummious appearance, and to regain thickness and undercut appearance.

3. Relocate anaps towards aft end of seat cushion.

4. Use cushion density comparable to that obtained with laminated sample. Add more material where leading edge of structure is lowered.

B. ASETRAYS

- 1. Revise ashtray so that cover is essentially flush with ermrest cap, but cover should not be part of esh receiver.
- 2. Make snuffer shallow.
- 3. Add cigarette support.

C. ARBRESTS

- 1. Bolteron side panels preferred, but should be eschanically retained:
 Place serew heads under errorest cap and on bottom side. Install
 thin piece of padding to insure fit and prevent chatter.
- 2. Attaching key alots for cap should be on top rather than sides.

3. Decrease armost length 2".

- 4. Center exercist forward bayenet should be seme length as rear one to facilitate insertion (to be negotiated with Customer).
- 5. Increase dismater of plastic control cable housing.

D. STRUCTURE

- 1. Aft Bolteron torque tube covers should be attached mechanically and self-supporting over entire area. (Methl shall be used).
- 2. Diagonal leg brace should be square tube rather than channel to prevent shoe scuffing (Accomplish intent only).
- 3. Racline machanism mount bushings should be press fit with better alignment.

SIRUCTURE (cont.)

- b. Recline cable ends should be solder dipped to prevent fraying.
- 5. Lover the leading edge of sect structure one-quarter inch.

HEATON STUBBOY

- 1. Eliminate seems on ermrest cover (to be negotiated with Customer).
- 2. All unholstery covers should be interchangeable except for sast flaps and back flap.
- 3. Add glove snap in center of back above table latch for head rest cover retention.
- TRIM F.

Stiffen leg fairing

- HYPEGRAL FOOD TRAY
 - 1. Delete glass holder depression in the surface of tray and install pull-out glass holder. (CCP required for pull-out holder)
 - 2. Redesign trailing edge of tray in down position so that lip is continuous and entout for latch is aft of lip.
 - 3. Lighten latch closing load.
- H. MISCELLANDOUS
 - 1. Sean-in head rest pillow is preferred. (Not applicable see CCP 232)
 - 2. Elizinate pip-pin retainer strap.
 - 3. Request right to make minor changes after production seat review. (To be regotiated to quality inspection only).
- I. Acceptance of energy absorber would be based on Convair fully developing a satisfactory device. Such device to be tested on full scale seats using dummies and development to continue on other devices should seat belt extension prove impractical. (No other devices offered than seat belt attachment) (Test program to be resolved by Project Office & Structures).

Prepared by 7.G. Wellinger

H. A. Follinger

MELL:18

5 December 1958

R. Frost/R. Benson

A. J. Severa

Deletion of Trim Closing Penal on Aft Seat Roy TWA Model 22-1

Rof:

(a) Telecon Willis to Spennuth on 3 December 1958 some subject.

(6) 题正 约37

- (c) THA CCP 97-B "Integral Folding Food Trays"
 (d) Wise THA to Conveir dated & December 1958
- (e) Mano, Carest to F. Frost/R. Honson, 3 December 1958, seem subject

By Reference (d) Wil recainded their request of Reference (a). Therefore, all action with regard to Reference (d) shall be concelled and the originally accepted 146 lb. teight increase for THA CCP 97-B "Integral Folding Food Tray" shall be retained. The design shall incorporate two closing penals per cirplene, one on each inboard cost place of the aft cost row. All concerned are carticated that so closing penal nor food tray shall be installed on either outboard cost place of the aft row. All food tray shall be installed on either outboard sout place of the aft row. All food tray provisions, however, shall be made for the aft row.

AJS:HELL:19

cc: V. Shandera

W. Fitzsimons

J. Gnas

J. Hoover/L. Beckett

Ro Albers Ho Harris

T. WAMinutes of CCP 97-B

A. J. Severi Project Engineer

SALFS ORDER

Sold to:

Hughes Tool Company

Houston, Texas

Dates

1 December 1958

Reference:

(a) TWA letter, 880-817A-193, dated

880-1-195

25 November 1958

(b) Commercial Change Proposal No. 186

WO No:

SO No:

30,000 Series

(e) MCL No. 10,257

(d) D.I.B. No. 4.010

MODEL 880 - TWA

SPECIFICATION ADMINISTRATIVE CHANGE - ELEVATORS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,257, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (12/29/58) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price,

RECEIVED

DEC 5'58

PROJECT SPEC. GROUP

WDW: BC

Log No: _5471

1) Weller C. G. Glasgow Manager of Contracts

CONVAIR A Division of General Dynamics Corporation (Sen Diego)

Trity

TWA MENUTUS

12 January 1959

No. 170 · 22-1

Reference:

(a). S. O. 880-1-202 dated 8 January 1959 (b). Commercial Change Proposal No. 237

MCL No. 10,361

1. Installation of Spare Wiring - Conduit

Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL 10,361, Reference (c).

Description of Change:

Page 68 (Cont). Paragraph 3.16.5.6.1 - Conduit Location:

Add the following to the end of the paragraph:

"Two sections of one inch rigid conduit, each approximately 12 feet long, shall be installed below the cabin floor (and attached by clips to floor beams) between the front spar and the aft main wheel well to permit future routing of new wiring without removing cabin seats and floor panels."

This change results in an increase in the airplane empty weight of 5 lbs. per aircraft.

ACTION: All concarned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order data.

AJS:JMC:1s

Engineer

RECEIVED

JAN 14'59

PROJECT SPEC. GROUP

W& Tritzeimmons)

C O N V A I R A Devision of General Dynamics Corporation (San Diego)

THA MINUTES 10 December 1958

No. 165

- Ref: (a) Sales Order 880-1-195 dated 1 December 1958
 - (b) Commercial Change Proposal No. 186
 - (c) MCL No. 10,257
- 1. Specification Administrative Change-Elevators

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL No. 10,257, reference (c).

Description of Change:

Page 24, Paragraph 3.6.3 ELEVATORS:

Delete the words "interconnected and" in the second line of the first sentence.

ACTION: All concerned are directed to proceed with the incorporation of subject change. Specification Group will forward revised specification pages to the Contracts Department within four weeks of Sales Order date.

AJB: 20:18

A. J. Seward Project Engineer

RECEIVED

DEC 11'58

PROJECT SP.C. GROUP House took Company

Revised: 18 April 1960 SO No: 880-1-194

1- 20 M - 2 PAR 1

(a) YWA TWM, 880-317A-194, dated 25

WO No: 30,000 Series

(b) loumer dal change Proposal No. 224

(a) MIL No. 10,285 (d) D.I.B No. 4.010

(e) Convair TWX dated 14 April 1960

(f) TWA Thy 880-1304A-320 dated 15 April 1960

MOFIL 880 - TWA

INSTALLATION OF LUBER LINE REFERENCE ON POLAR PATH COMPASS FLUX GATE

- L), but d upon MCL No. 10, 285, Reference (a), our proposal, Reference (b), Accordingly, all departments one run a e directed to proceed with the change outlined in Reference (b).
- Ingineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (12/24/58) per leta time (1).
- This change will be incorporated on 24 TWA Model 880 aircraft (Airplane 129 37 through 32 with to effect on guaranteed weight empty, performance, and very scholage.

Sept 1232

Revised: To add five (5) additional.

sircraft per Ref. (e) & (f) - 4/18/60

1-1/6. 1. Glaugow Manager of Contracts

CONVAIR A Division of General Dynamics Corporation (San Diego)

TWA MIDNITURE Revised 25 April 1960 1 December 1958

No. 163 22-1

Raference:

(a) S. O. 880-1-194 dated 26 November 1958, Rev. 18 April 1960

(b) Commercial Change Proposal No. 224

(c). MCL No. 10,285

Installation of Lubber Line Reference on Polar Path Compass Flux Cate.

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), bessed upon MCL No. 10,885, Reference (c).

DESCRIPTION OF CHARGE:

Page 59, Paragraph 3.14.3.4.1 FINX VALVE:

Revise the paragraph title and paragraph to read as follows:

"3.14.3.4.1 FLUX CATE: Two flux gate units shall be installed in one wing tip area with an access door on upper wing surface. The flux gate mounting brackets shall be designed to preclude deviation errors resulting from improper positioning of the flux gate unit. A centered arrow pointer (lubber line), inscribed on a small metal plate, shall be provided to indicate the relationship of the flux gate to the longitudinal axis of the airplane. Flux gate mounting and environment shall be such that the units will not be subjected to vibration or shock loads to a degree which would permit deterioration under all normal operating conditions. The installation shall be designed to preclude undue deterioration of the flux gate units as a regult of vibration levels to be encountered in this area under normal operating conditionso"

This change will be incorporated on-24-TWA Model 22 Aircraft (Airplane Nos. 7-through 30.).

29

3 31

ATTION: All concerned are authorized to proceed with the above. Specifications Grown to forward revised specification pages to Contracts within four weeks of Salo Order date.

AJB:EC:18

A. A. Severd
Project Engineer

MAY 6 '60

PHOJECT SPEC. GROW!

CONVAIR-SAN DIEGO

ACCOUNTING SAIES ORDER_

Sold to: Hughes Tool Company

Houston, Texas

Date: 25 November 1958

SO No:

880-1-193

WO No:

30,000 Series

MODEL 880 - HUGHES TOOL COMPANY

AMENDMENT NO. 3

- (1) Attached is a copy of Amendment No. 3, executed 20 November 1958, to the Hughes Tool Company Purchase Agreement, executed 10 September 1956.
- (2) This Amendment No. 3 has no effect on contract price.
- (3) The date of delivery of the parts provisioning list has been changed from 31 March 1958 to 2 March 1958.

WDW : BC

Log No: 5422

C. G. Glasgow Managor of Contracts

cc: E. Burke (w/exes. copy)
880 Project Office (w/attach)(2)
Comm. Sales (w/attach)
H. A. Kayes (w/attach)
Contracts Staff Section (w/attach)
L. E. Johnson (w/attach)
J. Doig (w/attach)

W. F. Brown (w/attach)
G. Whisler (w/attach)
H. R. Kunnedy (w/attach)
Commercial Contracts
Arthur Anderson & Col (w/attach)
Amendment No. 3

AMENDMENT NO. 3

TO

PURCHASE ACREEMENT BY AND BETWEEN

GENERAL DYNAMICS CORPORATION (Convair Division)

AND

HUGHES TOOL COMPANY

THIS AGREEMENT (hereinafter called "Amendment No. 3") entered into this

20th day of November 1958, by and between GENERAL DYNAMICS

CORPORATION, A Delaware Corporation, having an office (Convair Division) in

San Diego, California (bereinafter called "CONVAIR"), and HUCHES TOOL COMPANY,

with its general offices at Houston, Texas (hereinafter called "Buyer"):

WITNESSETH:

WHEREAS, Buyer and CONVAIR have entered into a Purchase Agreement dated 10 September 1956, relating to the purchase and sale of thirty (30) Model 880 Convair aircraft; and

WHEREAS, Buyer and CONVAIR desire to amend said AGREEMENT to change the date upon which CONVAIR is contractually bound to deliver the list of parts now provided for in Article 4(a) of said Purchase Agreement:

NOW, THEREFORE, in consideration of the mutual covenants herein contained, the parties hereto agree to amend the AGREEMENT as follows:

- 1. By deleting the first sentence of Article 4(a) and substituting the following therefor:
 - (a) Initial Spare Parts Procurement. As soon as possible, and in no event later than 31 March 1959, unless extended by mutual RWR/TBE agreement by Buyer and CONVAIR, CONVAIR shall furnish Buyer a list of the parts for the Aircraft which are manufactured by CONVAIR of according to CONVAIR's design and which are considered appropriate by CONVAIR for purchase as Spare Parts.
- 2. This Amendment No. 3 shall not be varied in its terms by any oral agree-

ment or representation or otherwise than by an instrument in writing of even or subsequent date hereto, executed by both parties by their officers thereunto duly authorized.

- 3. This Amendment No. 3 shall be construed in accordance with the laws of the State of California.
- 4. Except as amended hereby, all terms and conditions of the Agreement shall remain in full force and effect.

Executed in quadruplicate as of the day and year first above written.

	GENERAL DYNAMICS CORPORATION	
	BY Thomas B. Eastland, Jr.	
	TITIE Chief of Contract Administration	
Attest:		
	HUGHES TOOL COMPANY	
	BY R. W. Russel	
	TITLE Special Representative	
Attest:		

CONVAIR-SAN DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughes Tool Company Houston, Towns Date: 25 November 1958

SO No:

880-1-192

WO No:

30,000 Series

MCDEL 880 - HUGHES TOOL COMPANY

CHANGE ORDER NO. 22

(1) Attached is a copy of Change Order No. 22 signed by Hughes Tool Company, which amends Detail Specification Report No. ZD-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change Nos. 133A, 182, 184, 190, 195, 196, 198, and 224 on the Medal 880 aircraft.

WDW :BC

LOS No: 5420

oc. G. Glasgor

PROJECT SPEC GROUP

RECEIVEL

cc: E. Burke (w/exec. copy)
680 Project Office (w/attach2)
Comm. Sales (w/attach)
H. A. Kayes (w/attach)
Contracts Staff Section (w/attach)
E. Johnson (w/attach)
J. Doig (w/attach)

W. F. Brown (w/attach)
G. Whinler (w/attach)
H. R. Kennedy (w/attach)
Commercial Contracts
Arthur Anderson & Co.
Change Order No. 22 (w/attach)

CHANGE ORDER NO. 22

to

HUGHES TOOL COMPANY

Detail Specification Report No. ZD-22-002 Dated 1 June 1956, Revised 7 September 1956

- A. The Datail Specification is hereby smended to reflect certain changes all as more particularly set forth in Specification Change Nos. 133A, 182, 184, 190, 195, 196, 198 and 224 and Commercial Change Proposal Summary No. 21 attached hereto and made a part hereof.
- B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 21 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 21 attached.

E. Effect on delivery:

None

- F. This Change Order results in the following charges and/or credits:
 - 1. Change No. 133A Specification Administrative Change Power Plant Items (Pages 45, 46, 47 and 53)

No charges or credits

2.	Change No. 180 - Landing Flares, Deletion of Page A-19)	Per Airplane	Total for 30 Airplanes
	Recurring Credit Non-Recurring Charge	\$ 128.00 14.00	\$ 3,840.00 420.00
	Total. Credits	\$ 114.00	\$ 3,420.00

3. Change No. 182 - Supplementary Fluorescent Lighting (Page 74)

No charges or credits

4. Change No. 184 - Specification Administrative Change Check-off List (Page 111)

No charges or credits

5. Change No. 190 - Specification Administrative Change Relocation of Water Fire Extinguishers (Page 116)

No charges or credits

CHANGE ORDER NO. 22

to

HUGHES TOOL COMPANY

Detail Specification Report No. 2D-?2-002 Dated 1 June 1956, Revised 7 September 1956

	6. Change No. 195 - Landing Flare Provis (Pages 73, 110 and A-19)	ions, Deletion of	Per Airplane	Total for 30 Airplanes
	Recurring Credits Non-Recurring Charges		\$ 444.00	\$ 13,320.00 9,180.00
	fotal Credits		\$ 138.00	\$ 4,140.00
	7. Change No. 196 - Specification Admini- Emergency Brake System Air Bottle (Page	strative Change e A-8)	No charges or	credits
	8. Change No. 198 - Copilot's Clock, Chan	age to	Per Airplane	Total for 30 Airplanes
	Recurring Charges Non-Recurring Charges		\$ 98.00 181.00	\$ 2,940.00
	Total charges		\$ 279.00	\$ 8,370.00
)	9. Summary of the foregoing charges and/o		Per Airplane	Total for 30 Airplanes
	Recurring Credits		474.00	14,220.00
	Non-Recurring Charges		501.00	15,030.00
	Total charges		\$ 27.00	\$ 810.00
G.	The attached Specification Charge Wos. 122 and Commercial Change Proposal Summary No. become a part of Detail Specification Report Revised 7 September 1956.	21 are hereby inco	orporated into ated 1 June 19	202
	Notwithstanding any other provisions of the Order No. 22 it is expressly understood and General Dynamics Corporation is conditioned Hughes Tool Company of Change Orders Nos. 2 by General Dynamics Corporation. In the evare so executed by Hughes Tool Company, this in full force and effect. In the event said executed by Hughes Tool Company, this Change	upon and subject to and 21 as said (hent that said Charse Order No. Change Orders Nose Order No. 22 sha	to the prior of thange Orders Nos. 22 shall be of the prior of the pri	of by execution by sere executed 20 and 21 considered to not so
I.	Except as herein modified all provisions of in effect.	the Detail Specif	cation shall	remain
Acce	pted and agreed to			¥-
This	20th day of November 1958			
HUGH	ES TOOL COMPANY	GENERAL DINAMICS	CORPOR APPTON	
By _	R. W. Rummel	By Thomas B.		
	Special Representative	Title Chief of C		stration

CONVAIR - SAN DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughes Tool Company Houston, Texas

Date: 25 November 1958

SO Nos

880-1-191

WO Mas

30,000 Series

MODEL 880 - HUGHES TOOL COMPANY

CHANCE ORDER NO. 21

(1) Attached is a copy of Change Order No. 21 signed by Hughes Tool Company, which amends Detail Specification Report No. 2D-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change Nos. 21A, 57A, 115A, 154, 171A, 173, 174, 175, and 178 on the Model 880 aircraft.

(2) The latest revision of the smoke mask part number on Page Al8 of the revised specification pages is 6849-5.

WDW:BC

log No: 5421

forc. G. Glasgew Hanager of Contracts RECEIVED

NOW 26 '58

SPEC. GROUP

ce: E. Burke (w/exec. copy)

880 Project Office (w/attach 2)

Comm. Sales (w/attach)

H. A. Kayes (w/attach)

Contracts Staff (w/attach)

E. E. Johnson (w/attach)

J. Doig (w/attach)

W. F. Brown (w/attach)
G. Whisler (w/attach)
H. R. Kennedy (w/attach)
Commercial Contracts (w/attach)
Arthur Anderson & Co.
Change Order No. 21 (w/attach)

CHANGE ORDER NO. 21

to

HUGHES TOOL COMPANY

Detail Specification Report No. ZD-22-002 Dated 1 June 1956, Revised 7 September 1956

- A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change Nos. 21A, 57A, 115A, 154, 171A, 173, 174, 175, and 178 and Commercial Change Proposal Summary No. 20 attached hereto and made a part hereof.
- B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal. Summary No. 20 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 20 attached.

E. Effect on delivery:

None

- F. This Change Order results in the following charges and/or credits:
 - 1. Change No. 21A Fuel System, Change from Fressure to Non-Pressurized System (Pages 47, 48, 49, 50, 51, 52, 52A, 53, 54, 57, 64, 83, 85, and A=24)

	Per Airplane	Total for 30 Airplanes
Recurring Credit Non-Recurring Credit	\$ 211.00 100.00	\$ 6,330.00 3,000.00
Total Credits	\$ 311,00	\$ 9,330.00

CHANGE CRDER NO. 21

\$0

HUGHES TOOL COMPANY Detail Specification Report No. ZD-22-002 Dated 1 June 1956, Revised 7 September 1956

F.	2.	Change No. 57A - Increase of Landing
		Weight to 130,000 Pounds (Pages 12,
		19, and A-13)

		Weight to 130,000 Pounds (Pages 12, 19, and A-13)		
			Per Airplane	Total for 30 Airplanes
		Recurring Charge Non-Recurring Charge	\$ 1,690.00 None	\$ 50,700.00 None
		Total Charges	\$ 1,690,00	\$ 50,700,00
	3.	Change No. 115A - Structural Pro- visions for Overwater Operations (Page 25)	No Charg	es or Credits
	4.	Change No. 154 - Titanium Cowling, Door Skins and Frames (Page 43)	No Chang	on on Chadita
			No Charg	es or Credita
	5.	Change No. 171A - Stabilizer Trim Control Electric Drive Capability (Pages 40 and 83)		
			Per Airplane	Total for 30 Airplanes
		Recurring Charge Non-Recurring Charge	\$ 2,396.C0 723.00	\$ 71,880.00 21.690.00
		Total Charges	\$ 3.119.00	\$ 93,570,00
	6.	Change No. 173 Lavatory Towel Dispenser, Addition of (Pages 109 and A-14)		
			No Charge	as or Credits
	7.	Change No. 174 - Portable Oxygen Cylinder Assemblies, Revision to (Pages 118 and A-18)		
			Per Airplane	Total for 30 Airplanes
4		Recurring Charge Non-Recurring Charge	\$ 31.00 29.00	\$ 930.00 870.00
		Total Charges	\$ 60.00	\$ 1,800.00

CHANGE ORDER NO. 21

to

HUGHES TOOL COMPANY

Detail Specification Report No. ZD-22-002 Dated 1 June 1956, Revised 7 September 1956

F. 8. Change No. 175 Oxygen Cylinder (Page 118)	- Passenger Cabin es, Relocation of				
/1980 ITO)		No Char	ges or Credits		
9. Change No. 178 Indicator, Revi	- Turn and Bank sion to (Page A-10)	No Char	ges or Credits		
10. Summary of the and/or credits:					
		Per Airplane	Total for 30 Airplanes		
Recurring Non-Recur	Charges ring Charges	\$ 3,906.00 652.00	\$ 117,180,00 19,560,00		
Total Cha	rges	\$ 4,558.00	\$ 136,740.00		
G. The attached Specification Change Nos. 21A, 57A, 115A, 154, 171A, 173, 174, 175, and 178 and Commercial Change Proposal Summary No. 20 are hereby incorporated into and become a part of Detail Specification Report No. ZD-22-002 dated 1 June 1956, Revised 7 September 1956.					
H. Notwithstanding any other provisions of the Purchase Agreement and/or this Change Order No. 21 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order No. 20 as said Change Order was executed by General Dynamics Corporation. In the event that said Change Order No. 20 is so executed by Hughes Tool Company, this Change Order No. 21 shall be considered in full force and effect. In the event said Change Order No. 20 is not so executed by Hughes Tool Company, this Change Order No. 21 shall be void and of no effect.					
I. Except as herein mo remain in effect.	dified all provisions of	the Detail Specifi	cation shall		
Accepted and agreed to					
This 20th day of	November 1958				
HUGHES TOOL COMPANY GENERAL DYNAMICS CORPORATION					
By R. W. Runnel	By	B. Coggan			
Title Special Repre	sentative T	tle Vice President	t - Convair Division		

SALES ORDER

Sold to:

Hughes Tool Company

Houston, Temas

Date:

25 November 1958

SO No:

880-1-190

Reference:

(a) TWA letter, 880-809A-190, dated

WO No:

30,000 Series

20 November 1958 (b) Commercial Change Proposal No. 225

(e) MCL No. 10,353

(d) D.I.B. No. 4.010

MODEL 880 = TWA

REVISION TO ATC TRANSPONDER PANEL

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,353, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (12/23/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, or de-Livery schedule.

WDW:BC

Log No: 5425

Manager of Contracts

RECEIVED

דטבנלאק SPEC

CONVAIR A Division of General Dynamics Corporation (San Diego)

THA MIMPIES

1 December 1958

No. 162 22-1

Reference:

- (a) S. O. 880-1-190 dated 25 November 1958 (b) Commercial Change Proposal No. 225

(e) MCL No. 10,353

1. Revision to ATC Transponder Penal

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,353, Reference (c).

Description of Change:

Poge A-7, AFFENDIX I-C, ELECTRONIC EQUIPMENT:

Change the sixth item under "COMMROL PANELS" as follows:

"l ATC Transponder From: Gables G-554" Beecon.

"1 ATC Transponder To: Beecon Cobles G-554Y"

ACTION: All concerned are surnorized to proceed with the above. Specifications Group to forward review specification pages to Contracts within four weeks

of Sales Order date.

AJB: JAC:is

Ragineer

RECEIVED

DEC 3'58

PROJECT SPEL **GROWING**

SALES ORDER

ee75

Sold to: Hughes Tool Company Date:

25 November 1958

Houston, Texas

SO No:

880-1-189

References

(a) TWA letter, 880-800A-185, dated 17 November 1958

WO No:

30.000 Series

(b) Commercial Change Proposal No. 217A (c) MCL No. 10,303

(d) D.I.B. No. 4.010

MODEL 880 - TWA

CAR AMENDMENT 4B-9

(1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b) based upon MCL No. 10,303, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b) with the following exception:

Under Paragraph 2.1, Page 8, "APPLICABLE FEDERAL REGULATIONS" delete the words "4b-8 (not applicable)" from the subject Commercial Change Proposal.

- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (12/23/58) per Reference (d).
- (3) This change results in an increased weight per airplane of six pounds with no effect on aircraft guaranteed performance, delivery schedule, or contract price.

WDW:BC

Log No: 5433

Manager of Contracts

RECEIVED

1 '58 DEC PROJECT

SPEC. GROUP

C O N V A I R A Division of General Dynamics Corporation (Sen Diego)

TWA MENUTES

1 December 1958

No. 161 22-1

Reference:

(a) S. O. 880-1-189 dated 25 November 1958 (b) Commercial Change Proposal No. 217A

e) MCL No. 10,303

1. CAR Amendment 4b-9

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,303, Reference (c).

Description of Change:

Page 8, Paragraph 2.1, APPLICABLE PETERAL RECREATIONS:

Delete the following from the end of the last item in the emendment list:

"1 and"

Add the following items to the emendment list:

4b-9 adopted 27 August 1958; and"

Page 118, Paragraph 3.19.5.4 INDIVIDUAL CUTLENS:

Change the third sentence to read as follows:

"Two oxygen outlets shall be provided in each levetory."

This change results in an increased weight of six pounds per aircraft.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS: JMC:1s

Project Engineer

RECEIVED

DEC 3'58

PROJE_T SPEC. GROUP

CCPS #125

Sold to: Hughes Tool Company

Houston, Texas

Date: 25 November 1958

SO No:

880-1-188

References

(a) TWA letter, 880-801A-186, dated

18 November 1958

WO No:

30,000 Series

(b) Commercial Change Proposal No. 227

(e) MCL No. 10,305

(d) D.I.B. No. 4.010

MODEL 880 - TWA

TEMPERATURE MEASUREMENT PLANE ILLUSTRATION

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,305, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (12/23/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, delivery schedule, or contract price.

WDW:BC

Log No: 5431 -

Menager of Contracts

RECEIVED

DEC 1'58 PROJECT SPEC. GROUP

CONVAIR A Division of General Dynamics Corporation (San Diego)

THA MINUTES

1 December 1958

No. 160 22-1

Reference:

- (a) 8. 0. 880-1-188 dated 25 November 1958 (b) Commercial Change Proposal No. 227 (c) MIL No. 10,305

1. Desperature Measurement Plane Illustration

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,305, Reference (c).

Reason for Change: To incorporate Figure 3.20-5 into Specification.

Description of Change:

Page 120, Paragraph 3.20.1.3.1 TEMPERATURE VARIATION:

In the second sentence, change "Figure 3.19-11" to "Figure 3.20-5"

Action: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four wasks of Sales Order date.

AJ8: JEC:18

RECEIVED

DEC 3'58

PROJE T SPEC. GROUP

CONVAIR-SAN DIEGO

Hughes Tool Company Sold &o:

Date: 25 November 1958

Homston, Texas

SO No:

880-1-187

References

(a) TWA letter, 880-798A-183, dated 17 November 1958

WO No: **30,000** Series

(b) Commercial Change Proposal No. 212

(c) MCL No. 10,290 (d) D.I.B. No. 4.010

MODEL 880 - TWA

INSTALLATION OF PROVISIONS FOR VG RECORDER

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,290, Reference (c). Accordingly, all departments concorned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (12/23/58) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

WDW:be

5432 Log No:

> C. G. Glasgow Manager of Contracts

RECEIVED

DEC. 1'58

PROJECT SPEC. GROUP

C O N V A I R A Division of General Dynamics Corporation (Sen Diego)

THA MIRRITARS

1 December 1958

No. 159 22-1

Reference:

(a) 8. 0. 880-1-187 dated 25 Hovember 1958

(b) Commercial Change Proposal No. 212

(e) MCL N. 10,290

1. Installation of Provisions for VG Encorder

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,290, Reference (c).

Description of Change:

Page 61, Paragraph 3.14 INSTRUMENTS AND NAVIGATION EQUIPMENT:

Add the following new paragraph to the page:

"3.14.3.10 VG RECORDER PROVISIONS: Provisions shall be made for the later installation of one VG recorder on each of four airplanes. The VG recorder provisions shall be installed at the approximate center of gravity of the airplane in bottom of the fuse-lage aft of the rear spar. The provisions shall include mounting, and tubing from the pitot and static lines connecting to the flight recorder (see paragraph 3.14.3.8). Here shall be provided for capping these lines when VG recorder is not installed."

Add the following footnote to the bottom of the pege:

"The specific airplanes on which the VG recorder provisions shall be installed will be THA Airplanes 14, 15, 16 and 17."

Not to be part of the Specification Language:

20The following weight effect shall be subtracted from the ... as weighed figures when considering guaranteed weight of the effected airplanes and is not to be included in the accumulative Specification weight figures.

Effect on Weight:

/ 1.0 pound

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS:JIC:18

roject Engineer

PROJE T SPEC. Sold to:

Hughes Tool Company

Houston, Texas

Date: 17 November 1958

SO No:

880-1-186

Rafarence:

(a) TWA letter, 880-775A-177, dated

17 October 1958 (b) Commercial Change Proposal No. 170

WO No:

30,000 Series

(c) MCL No. 10,206

(d) D.I.B. No. 4.010

MODEL 880 - TWA

CABIN INTERIOR MODIFICATION

AND INSTALLATION OF A 12 PLACE CLUB AREA

(1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,206, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference enge (b) with the following exceptions:

Page 1 of 5

Page 1 - INTRODUCTION:

Item revised to read "In eighth line of first paragraph, change '80 to 108" to '84 to 110."

Page 14. Paragraph 3.1.2.2 - LOADING SUMMARY:

Second item revised to read "Under "Payload 2 change" (108 passengers) to (110 passengers). '"

Add: "Change payload from 26,450 pounds to 26,780 pounds."

Page 2 of 5

Page 105, Paragraph 3.19.1.1.4 - LOUNGE SEATS:

"All seats shall be CAA approved for occupancy during takeoff and landing."

Page 3 of 5

Page 114, Paragraph 3.19.3.6 - HAT RACKS:

Revise the last sentence of the paragraph to read: "A door or doors HELFIVED shall be provided for each bin capable of containing stowed loads of one pound per lineal inch under CAA crash load conditions."

NOV 19'59

PROJECT SPEC. GROUF

CONVAIR-SAN DIEGO

SALES ORDER

PAGE TWO

Sold to:

Hughes Tool Company

Houston, Texas

Date: 17 November 1958 SO No:

880-1-186

Reference:

(a) TWA letter, 880-775A-177, dated

17 October 1958 (b) Commercial Change Proposal No. 170 WO No:

30,000 Series

(e) MCL No. 10,206

(d) D.I.B. No. 4.010

MODEL 880 - TWA

CABIN INTERIOR MODIFICATION

AND INSTALLATION OF A 12 PLACE CLUB AREA

(1) (Continued) Page 3 of 5

Page 129, Paragraph 3.23.2 - EQUIPMENT INTERCHANGEABILITY:

This item deleted from change proposal.

Page A3. APPENDIX I-C. ELECTRICAL SYSTEM:

This item deleted from change proposal.

Page 4 of 5

The item reading "Delete sixth item Window Curtains - 7.5 oz. has been relocated to Page A-15, Appendix I-C - Furnishings, since this is the page covering this item in the specification.

- (2) A Change Order incorporating this proposal only is to be forwarded to the Contracts Department at the earliest possible date.
- (3) This change results in an increase in the guaranteed weight empty of the aircraft of 324.8 pounds with no effect on performance or delivery schedule.

FOR ACCOUNTING DEPARTMENT ONLY

(4) This change results in an increased price per aircraft of \$4,000, all recurring costs, for a total contract increase of \$120,000.

WDW:BC

Log No: 5364

mustailan et Manager of Contracts

C O N V A I R A Division of General Dynamics Corporation (San Diego)

TWA MINUTES 25 November 1958



No. 155 22-1

Reference:

(a) S.O. 880-1-186 dated 17 Hovember 1958

(b) Commercial Change Proposal No. 170

(e) MLL Ho. 10,206

1. CARIN INTERIOR MODIFICATION AND INSTALLATION OF A 12-FLACE CLUB AREA

THA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL No. 10,206, reference (c), with the following exceptions to reference (b) proposal.

Page 1 of 5 Page 1 - DYFRODUCTION:

Item revised to read "In eighth line of first paragraph, change '80 to 108' to '84 to 110.'

Page 14, Paragraph 3.1.2.2 - LOADING SUBMARY:

Second item revised to read "Under 'Paylord 2 change '(108 passengers)' to '(110 passengers).'

Add: "Change payload from 26,450 lbs. to 26,780 lbs."

Page 2 of 5

Page 105, Paragraph 3.19.1.1.4 - LOUNDE SEATS:

Add: "All seats shall be CAA approved for occupancy during tekeoff landing."

Page 3 of 5

Page 114, Paragraph 3.19.3.6 - HAT RACKS:

Revise the last centence of the paragraph to read: "A door or doors shall be provided for each bin capable of containing stored leads of one pound per lineal inch under CAA crush load conditions."

Page 129, Paragraph 3.23.2 - EQUIPMENT INTERCHANGRANILITY:

This item deleted from change proposal

RECEIVED

Page A3, Appendix I-C - ELECTRICAL SYSTEM:

NON 2 x 158

This item deleted from change proposal.

PROJECT SPEC. GROUP

Page 4 of 5

The item reading "Delete sixth item Window Curtains - 7.5 os. has been relocated to Page A-15, Appendix I-C - Furnishings, since this is the page covering this item in the specification.

(Cont. on page 2)

THA Minutes No. 158

25 November 1958 Page Two

A copy of the change is attached. This change results in a weight capty increase of 324.8 pounds per mirplane.

ACTION; All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

A.J. Savard Project Engineer

AJS:JMC:rb

CONVAIR-SAN DIEGO

SALES ORDER #25

Sold to:

Hughes Tool Company

Houston, Texas

Date: 11 November 1958

SO No:

880-1-185

Reference:

(a) TWA letter, 880-794A-182, dated

7 November 1958

WO Nos

30,000 Series

(b) Commercial Change Proposal No. 207 (c) MCL No. 10,287

(d) D.I.B. No. 4.010

MODEL 880 - TWA

LANDING GEAR COMPONENT HEAT TREAT

V

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,287, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (12/9/58) per Reference (d).
- (3) This shange has no effect on guaranteed weight empty, performance, delivery schedule, or contract price.

WDW:BC

Log No: 5321

C. C. Glasgow Manager of Contrasts RECEIVED

NOV 12'58

SPEC. GROUP

C O N V A I R A Division of General Dynamics Corporation (San Diego)

TWA Minutes 17 November 1958

No. 156

Reference:

- (a) 8. 0. 880-1-185 dated November 11, 1958
- (b) Commercial Change Proposal No. 207
- (e) NCL No. 10,287
- 1. LANDING CHAR COMPONENT HEAT THEAT
 THA has accepted, as evidenced by Reference (a), our proposal, Reference
 (b), based upon MIL No. 10,287, Reference (c).

Description of Change:

Page 36, Paragraph 3.8.4.8 MATERIAL PROPERTIES:

Revise the first sentence to reed as follows:

"The main lending gear shock strut outer cylinder and piston, main lending gear upper torque are bolt and the wheel truck beem in addition to the rose gear side brace bolt, nose gear steering pinion and nose gear steering rack may be made from SAE 1340 steel, heat treated to 260,000 - 280,000 pai."

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJ8: JHC:10

A. J. Severd Project Engineer

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NOV 1 9 '5A

PROJECT

SPEC.

SPEC.

Sold to:

Hughes Tool Company

Houston, Texas

Date:

7 November 1958

(a) TWA letter, 880-791A-181, dated SO No:

880-1-184

Reference:

4 November 1958

WO No:

30,000 Series

(b) Commercial Change Proposal No. 218 (c) MCL No. 10,301

(d) D.I.B. No. 4.010

MODEL 880 - TWA

REPLACEMENT OF RECIRCULATION FAN - AIR CONDITIONING SYSTEM

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,301, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (12/5/58) per Reference (d).
- This change has no effect on guaranteed weight empty, performance, delivery schedule, or contract price.
- This change is to be incorporated on all TWA airplanes prior to delivery.

WDW:BC

Log No: 5303

Manager of Contracts

RECEIVED

NOV 1 4'58

PROJECT SPEC. GROUP

C O N V A I R A Division of General Dynamics Corporation (San Diego)

THA MINUTES

18 Nov. 1958

No. 157 22-1

Reference:

- (a) S. O. 880-1-184 dated 7 November 1958
- (b) Commercial Change Proposal No. 218

(c) MCL No. 10,301

1. REPLACEMENT OF RECIRCULATION FAN - AIR CONDITIONING SYSTEM

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based on MUL No. 10,301, Reference (c).

Description of Change:

Page A-17, APPENDIX I-C, PRESS., ANTI-ICING AND AIR COMD. EQUIP:

Change the sixth item in the Description List as follows:

From: "1 Recirculation Blower (cabin air) He

Standard 522200"

To: "1 Recirculation Blower (cabin air)

Ham. Standard 545751"

This change is to be incorporated on all TWA airplenes prior to delivery.

ACTION: All concerned ere authorised to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS: JME:18

A. J. Savard Project Engineer

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NOV 1 9 '58

PROJECT SPEC. GROUP LANVAIR SAN DIEGO

WI Brown t 722

SALES ORDER

neps # 25

no

November 1958

Data:

SO Nos

880-1-183

Raference:

Sold to:

Houston, Texas

Hughes Tool Company

(a) TWA TWX, 880-789A-180, dated & November 1958

(b) Commercial Change Proposal No. 221.

Proposal No. I (a) MCL No. 10,293

(d) MCL No. 10,293 (d) D.I.B. No. 4.010 WO Nes

30,000 Series

MODEL 880 - TWA

BUFFET OVERS, REVISION TO - PROPOSAL NO. I

- (1) TWA has necepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,293, Reference (c) Proposal No. I redesigns the structure of the 880 oven for interchangeability with Nordskog 707 buffet oven. Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b), Proposal No. I.
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (12/3/58) per Reference (d).
- (3) This shange has no effect on guaranteed weight empty, performance, or delivery schedule.

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NOV 7 '58

PROJECT SPEC, GROUP

WDW BC

Log No: 5 81

Inumus Certury

1 - C. G. Glasgou

Manager of Contracts

C O N V A I R A Division of General Dynamics Corporation (San Diego)

TWA MINUTES 6 NOVEMBER 1958

No. 155 22-1

Reference:

(a) S.O. 880-1-183 dated 5 November 1958

(b) Commercial Change Proposal No. 221, Proposal "A"

(e) MCL No. 293

1. BUFFET OVENS, REVISION TO - PROPOSAL "A"

TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based on MCL No. 293, Reference (c). Reference (b) proposal redecigns the structure of the 880 over for interchangeability with Nordskog 707 buffet over.

This change has no effect on Specification language.

ACTION: All concerned are authorized to proceed with the above-

A. J. Savard Project Engineer

AJS: JMC: jh

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NOV 11 '58

PROJECT SPEC, GROUP

SALES ORDER

ceps

Sold te:

Hughes Tool Company

Houston, Temas

Date: 31 Ostober 1958

SO No:

WO No:

880-1-182

30,000 Series

Reference:

(a) TWA letter, 880-782A-179, dated

28 Ostober 1958

(b) Commercial Change Proposal No. 216

(e) MCL No. 10,351

(d) D.I.B. No. 4.010

MODEL 880 - TWA

TWA SELECTED EXTERIOR MARKINGS AND COLOR SCHEMES

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10, 351, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (11/28/58) per Reference (d).
- (3) This change results in an increase in the guaranteed weight empty of the aircraft of 63 pounds, with no effect on performance, delivery schedule, or contract price.

WDW:BC

Log No: 5265

C. G. Glasgow Manager of Contracts RECEIVED

NOV 5 '58

PROJECT SPEC. GROUP

CONVAIR A Division of General Dynamics Corporation (San Diego)

No. 154 22-1

TWA MINUTES 31 October 1958

eference: (a) S.O. 880-1-182 dated 31 October 1958 (b) Commercial Change Proposal No. 216

(c) MCL No. 10,351

. TWA SELECTED EXTERIOR MARKINGS AND COLOR SCHEMES

TWA has accepted as evidenced by Reference (a), our proposal, Reference (b), based on MCL 351, Reference (c).

Description of Change:

Page A-15, APPENDIX I-C, FURNISHINGS:

Change the bottom item as follows:

Exam: "Exterior Marking Paint - Weight is for CAA numbers and Identification 20,0 1b

"Exterior Marking and Color Scheme Paint (including weight for CAA To: numbers and identification)

83.0 lb"

Roference Convair Drawing No. 22-98001 EXTERIOR MARKINGS TWA.

This change results in a weight empty increase of 63 pounds per airplane.

TIM: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

IS:JMC:ead

W + Brewn 6-172

CONVAIR-SAN DIEGO

ACCOUNTING SALES ORDER

Sold to:

Hughes Tool Company Houston, Texas Date: 28 October 1958

SO No:

880-1-181

WO No:

30,000 Series

MODEL 880 - HUCHES TOOL COMPANY

CHANGE ORDER NO. 20

- (1) Attached is a copy of Change Order No. 20 signed by Hughes Tool Company, which amends Datail Specification Report No. 2D-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change No. 197 on the Model 880 aircraft.
- (2) The following item should be deleted from Specification Change No. 197 and the subject change order:

Page A-5 Power Supply (416N-5), Collins, 505-3706-013

WDW.EC

Log No: 5213

Manager of Contracts

co: E. Burko (w/exec. copy)
880 Project Office (w/attach 2)
Comm. Sales (w/attach)
H. A. Kayes (w/attach)
Contracts Staff Section (w/attach)
E. E. Johnson (w/attach)
J. Doig (w/attach)

W. F. Brown (w/attach)
G. Whisler (w/attach)
H. R. Kennedy (w/attach)
Commercial Contracts
Arthur Anderson & Co.
Change Order No. 20

RECEIVED

OCT 30'58

PROJECT SPEC. GROUP

CHANGE ORDER 190. 20

HUGHES TOOL COMPANY

Detail Specification Report No. ZD-22-002 Dated 1 June 1956, Revised 7 September 1956

A.	The Detail	Specification	is her	reby emende	d to reflect	certain	changes all
	as more par	ticularly set	forth	in Specifi	cation Chang	e No. 1917	and Commercial

B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balance:

As reflected in Specification Change No. 19F and Commercial Change Proposal Summary No. 19 attached.

D. Effect on performance:

As reflected in Specification Change No. 19F and Commercial Change Proposal Summary No. 19 attached.

E. Effect on delivery:

None

- F. This Change Order results in no charges or credits.
- G. The attached Specification Change No. 19F and Commercial Change Proposal Summary No. 19 are hereby incorporated into and become a part of Detail Specification Report No. ZD-22-002 dated 1 June 1956, Revised 7 September 1956.
- H. Except as herein modified all provisions of the Detail Specification shall remain in effect.

Accepted and agreed to	
This 23rd day of October 1958	
HUGHES TOOL COMPANY	GENERAL DYNAMICS CORPORATION
By R. W. Russell	By Thomas B. Eastland, Jr.
Title Special Representative	Chief of Contract Admin- Title istration - Convair Division
	(San Diego)

CONVAIR - SAN DIEGO

SALES ORDER

Sold to:

Hughes Tool Company

Houston, Texas

Date: SO No: 21 October 1958

Reference:

(a) TWA letter, 880-774A-176, dated

17 October 1958

WO No:

880-1-180

30,000 Series

(b) Commercial Change Proposal No. 215

(c) MCL No. 10,299

(d) D.I.B. No. 4.010

MODEL 880 - TWA

SPECIFICATION ADMINISTRATIVE CHANGE - FUSELAGE

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,299, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (11/18/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, price, or delivery schedule.

WDW:BC

Log No: 5168

nager of Contracts

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OCT 22'58

PROJECT SPEC. GROUP

CONVAIR A Division & General Dynamics Corporation (San Diego)

TWA MINUTES 22 October 1958 No. 153 22-1

Reference: (a) S.O. 880-1-180 dated 21 October 1958

(b) Commercial Change Proposal No. 215

(c) MCL No. 299

SPECIFICATION ADMINISTRATIVE CHANGE-FUSELAGE

TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 299, Reference (c).

Description of Change:

Page 7. Paragraph 1.2 GENERAL DESCRIPTION:

Change: "vertical tail" in the last line

To: "fuselage"

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

> A. J. Savard Project Engineer

CONVAIR - SAN DIEGO

Page One

SALES ORDER

Sold to:

Hughes Tool Company

Houston, Texas

Date:

WO No:

20 October 1958

Reference:

(a) TWA letter 880-755A-170 dated 10/8/58

(d) D.I.B. No. 4.010, Revised 27 May 1958

(b) Conmercial Change Proposal No. 209

80 No: 880-1-179

(c) MUL No. 289

30,000 Series

MODEL 880 - TWA

SPECIFICATION AIMINISTRATIVE CHANGE

- (1) TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL 289, reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (11/14/58) per reference (d) with the modifications as noted below:

Page 32 Continued, Paragraph 3.8.1.2 CONTROLS:

"The control lever shall remain locked until the left hand shock strut is extended and both main landing gear trucks are in the level zone. Add new paragraph to read as follows:

The landing gear lever shall be equipped with a sector or comparable mechanism which will mechanically hold the solenoid lock assembly in the energized (unlocked) position when the landing gear lever is in any position except the down position."

Page 80, Paragraph 3.16.11.1 LANDING GEAR WARNING HORN:

Revise the paragraph title and paragraph to read as follows:

"LANDING GEAR AND STABILIZER WARNING HORN: A born shall be provided to operate under the following conditions:

When any landing gear is not fully extended and locked with the aircraft airborne, the horn will operate if any power lever is retarded or if the flaps are in the range of approach to land. The power lever retard function will have a horn interrupter switch. The power lever horn interrupter switch shall be functionally associated with individual power levers. If the horn is cut off for one power lever, the horn will operate if any other power lever is retarded. Similarly, the horn circuit will be re-armed if the horn is cut off after a second and third power lever is retarded.

RECEIVED

OCT 21'58

PROJECT SPEC. GROUP

Log No. 5166

CONVAIR - SAN DIEGO

Reference: See Page One

Page Two

Sales Order

Sold to:

Hughes Tool Company

Houston, Texas

Date:

20 October 1958

SO No:

880-1-179

WO No:

30,000 Serie

"When the aircraft is ground borne the horn shall operate if the landing gear lever is not down and locked."

When the airplane is on the ground and any two or more of the power levers are advanced to take-off position, the horn will operate if the stabilizer and/or the flaps are not in the correct takeoff position."

(3) This change has no effect on price, guaranteed weight empty, delivery or performance.

WIN: CE

C. G. Glasgow Hamager of Contracts

G O N V A I R A Division of General Dynamics Corporation (San Diego)

TWA MINUTES 21 October 1958 No. 152 22-1

Rullerence:

- (a) S.O. 880-1-179 dated 20 October 1958
- (b) Commercial Change Proposal No. 209

(c) MCL No. 289

J. SPECIFICATION ADMINISTRATION CHANGE

TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 289, Reference (c).

Description of Change:

Page 32 Continued, Paragraph 3.8.1.2 CONTROLS:

Revise the second sentence, starting in the fifth line, to read as follows:

The control lever shall remain locked until the left hand shock strut is

extended and both main landing gear trucks are in the level zone."

Add new paragraph to read as follows:

landing gear lever shall be equipped with a sector or comparable mechanism which will mechanically hold the solenoid lock assembly in the energized (unlocked) position when the landing gear lever is in any position except the down position."

Page 80, Paragraph 3.16.11.1 LMDING GEAR WARNING HORN:

Revise the paragraph title and paragraph to read as follows:

"LANDING GEAR AND STABILIZER WARNING HORN: A horn shall be provided to operate under the following conditions:

When any landing gear is not fully extended and locked with the aircraft airborne, the horn will operate if any power lever is retarded or if the flaps are in the range of approach to land. The power lever retard function will have a horn interrupter switch. The power lever horn interrupter switch shall be functionally associated with individual power levers. If the horn is cut off for one power lever, the horn will operate if any other power lever is retarded. Similarly, the horn circuit will be re-armed if the horn is cut off after a second and third power lever is retarded.

When the aircraft is ground borne, the horn shall operate if the landing gear lever is not down and locked.

When the airplane is on the ground and any two or more of the power levers are advanced to take-off position, the horn will operate if the stabilizer and/or the flags are not in the correct takeoff position."

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

A. N. Savard Project Engineer

AJS:JMC:eed

SALES ORDER

Sold to:

Hughes Tool Company Houston, Texas

Date:

13 October 1958 Revised: 23 October 1958

SO No:

880-1-178

Reference:

(a) TWA letter 880-751A-169 deted 10/8/58

WO No:

30,000 Series

(b) Commercial Change Proposal

No. 211.

(e) MCL No. 292

D.I.B. No. 4.010, Revised 27 May 1958

MODEL 880 - TWA

SPECIFICATION ADMINISTRATIVE CHANGE

- (1) TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL 292, reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in reference (b).
- (2) Ingineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (11/10/58) per reference (d) with the changes as noted below:

Page A-10, Appendix T-C

Delete:

3 Regulator (Crew Diluter - Demand Type)

Page A-16, Appendix I-C

Delete:

1. Maintenance and Operating Manual"

WA does not desire the maintenance and operating manual installed on their aircraft.

(3) This change has no effect on price, guaranteed weight empty, delivery or performance.

The above deletions are to be deleted from the CCP and not from the Specifications. NOTE : They will appear in the Specification but will not be prefaced by an asterisk to indicate fixed useful load.

WIN: den

RECEIVED

OCT 27'58 PROJECT SPEC.

GROUP

ing No. - 5197

CONVLIR A Divi Let of Gun ral Dynamics Corporation (San Diego)

16 October 1958 Revised 28 October 1958 No. 150 22-1

(a) S.O. 88C-1-178 dated 13 Getober 1750, roviced 23 October 1958 (b) Commercial Change Proposal No. 211

(c) MCL No. 392

CONTINUE CHANGE

Till has a negrosal, as evidenced by Reference (a), our proposal, Reference (b), hair on MCL 292, Reference (c). based Premi tion of Change:

late A 15, APPENDIX I-C, FURNISHINGS:

Thee an ast wisk before the following itom in the loscription List:

"" 4 Escape Huito (inflatable) 1 Flight Gamel (CA4 Approved)

if the foll ming to the bottom of Page A-16:

"Winted Usefil I ad"

-Frein bermieben :

on the same with the first time and the same figure of the same of the same of the same of the same of the same

Paro 18, APP FIDIX I-C, OXIGEN EQUIPMENT:

Plane an astrick before the following items in the Description List:

50 3 Portabla 02 (310 - Liter)

"1 Portable 0 (310 - Liter) " 1 Fr. Asbustão Gloma"

Deleta the following from Page A-18:

Thing outless shall be furnished for the cabin attendants' locations, Light observer's and lavatory installations

(Wring Products Inc., Eurbank, Callifornia)"

- in the second of

representation of the second o

ATTI Programmed Start through the amplitude and an appropriate from the appropriate and approp And the second stage of the second section of the section o

May. 28 October 1958

Change the following on the bottom of Fage A-18:

From: ""Useful Load Itsm"

lo: ""Fixed Useful Load"

1 130 A-22, APPENDIX I-C, FIRE EXTINGUISHING EQUIPMENT:

Place on asterisk before the following items in the Description List:

"31 Portable CO2 Bottle
"3 Portable Water Bottles"

Add the following to the bottom of Page A-21:

"*Fixed Useful Loan"

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised appellic pict pages to Centracts within four weeks of Sales Order date.

AJS: JMC: cd

A. X. Savard Project Engineer

CONVAIR-SAN DIEGO

Sold to: Hughes Tool Company

Houston, Texas

Reference:

(a) TWA Message 880-771A-175 (b) Commercial Change Proposal

No. 206A

(c) MCL No. 277

(d) D.I.B. No. 4.010, Revised 27 May 1958

SALES ORDER

Date: 13 October 1958

SO No.

880-1-177

WO No.

30,000 Series

MODEL 880 - TWA

RAMP WEIGHT AND TAKEOFF WEIGHT, INCREASE OF

- (1) Hughes Tool Company has accepted per Reference (a), our proposal Reference (b), prepared in accordance with MCL 277, Reference (c). TWA airplanes Nos. 7 through 30 only are affected by this change. Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (11/10/58) per Reference (d).
- (3) This change results in a weight increase of 84 pounds per aircraft with no effect on aircraft performance nor delivery schedule.
- (4) This Sales Order cancels and supersedes Sales Order No. 880-1-175.

FOR ACCOUNTING DEPARTMENT ONLY

(5) This change results in an increase in price per aircraft of \$1,247 as follows:

Recurring Non-recurring \$ 408 per aircraft

\$ 839 per aircraft

for a total contract increase of \$29,928 amortized over a 32 airplane program.

WDW:1t

og No. 5146

Manager of Contracts

PROJECT SPEC

CONVAIR A Division of General Dynamics Corporation (San Diego)

TWA MINUTES 16 October 1958 No. 151 22-1

References (a) S.O. 880-1-177 dated 13 October 1958

(b) Commercial Change Proposal No. 206A

(c) MCL No. 277

1. RAMP WEIGHT AND TAKEOFF WEIGHT, INCREASE OF:

Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), prepared in accordance with MCL 277, Reference (c). TWA airplanes Nos. 7 through 30 only are affected by this change,

Description of Change:

Page 19, Paragraph 3.4.1 STRENGTH:

Change the first two listed items as follows:

To-

This change results in a weight increase of 84 pounds per airplane.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date

AJS: JMC: eed

Project Engineer

CONVAIR-SD

SALES ORDER

Sold to: Hughes Tool Company

Date:

13 October 1958

Houston, Texas

SO No:

880-1-176

Reference:

(a) TWA letter 880-759A-173 dated 10/6/58

WO No :

30,000 Series

(b) Commercial Change Proposal No. 34A

(c) MCL No. 1

(d) D.I.B. No. 4.010

MODEL 880 - TWA

PASSENGER SERVICE SUPPLY CABINET, PROVISIONS FOR

- (1) TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL No. 1, reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (11/10/58) per reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, price or delivery schedule.

WDW :dm

C. G. Glasgow

Manager of Contracts

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OCT 14'58

SPEC. GROUP

Log No. 5110

CONVAIR A Division of General Dynamics Corporation (San Diego)

TWA MINUTES 16 October 1058 To. 149 22-1

Reforence: (a) S.O. 880-1-176 dated 13 October 1958 (b) Commercial Change Proposal No. 34A

(c) MCL No. 1

1. PASSENGER SERVICE SUPPLY CABINET, PROVISIONS FOR

TWA has accepted, as evidenced by Reference (a), our porposal, Reference (b), based on MCL No. 1, Reference (c).

Description of Change:

Page 109, Paragraph 3.19.2.3.1 PAFSENGER SERVICE SUPPLY CAB:NET:

Revise the paragraph to red as follows:

covisions shall be made for the stowage of one Buyer furnished pagenger service supply capinet, Buyer No. 106, on the floor of the left hand aft coat compartment. These provisions shall consist of one tie-dem strap assembly to secure the cabinet, measuring 9-1/2 inches high, 1:.0 inches wide and :2-1/4 inches deep, to the floor."

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specificatio: pages to Contracts within four weeks of Sales Order date.

Project Engineer

AJS:JMC:ead

Re two Teal Corretty

*Canceled 13 October 1958 Data: 7 7. c 133

wo No: 10,000 Jarias

I No:

1-175

B CONTROL Coarge Proposal No. 206

18 1 1 1 9 No 4 516. Revised 27 May 1958

MODEL 880 - TWA

HAMP WEIGHT A'D TAYEOFF WEIGHT, INCREASE OF

the account of per Reference (a), our proposal, Reference (b), prepared in terms of h MGL No. 277, Reference (c). TWA Airplanes Nos. 12 through a pare after ted by this change. Accordingly, all departments conserned attacked to proposed with the change outlined in Aeference (b).

page to the Confronts Department within four weeks (11/5/28) per

to air raft performance of delivery schedule.

3), O to 184, 100. This information being developed on expedited basis tower acceptance or rejection expected by 10 October 1958. This Sales r will a revised acceptingly.

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PROJECT SPEC. GROUP

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anceled 10/13/58 and superseded by ales Order 880-1-177

San Euro lanager of Contracts

WI Bunt 120 MER CCRS#2

CONVAIR-SAN DIEGO

SAIES ORDER

Sold to:

Hughes Tool Company

Houston, Texas

Date:

26 September 1958

Reference:

(a) TWA letter, 880-748A-168, dated

SO No:

880-1-174

23

23 September 1958

WO No:

30,000 Series

(b) Commercial Change Proposal No. 205 (c) MCL No. 280

(d) D.I.B. No. 4.010

MODEL 880 - TWA

PORTABLE CO2 BOTTLE, FOUR-POUND IN LIEU OF FIVE-POUND

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 280, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (10/24/58) per Reference (d).
- (3) This change results in a weight decrease of one pound per airplane, with no effect on guaranteed performance, delivery schedule, or contract price.

WDW:bc

Log No: 4979

C. G. Glasgow Manager of Contracts RECEIVED

SEP 29'58

SPEC. GROUP

CONVAIR A Division of General Dynamics Corporation (San Diego)

TWA MINUTES 2 October 1958

No. 148 22-1

Reference (a) S.O. 880-1-174 dated 26 September 1958 (b) Commercial Change Proposal No. 205)

(c) MCL No. 280

1. Portable CO, Bottle, four-pound in lieu of five-pound.

TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), - based upon MCL 280, Reference (c).

Description of Change:

Page A21, APPENDIX I-C, FIRE EXTINGUISHER EQUIPMENT:

Change the fourth item in the Description List as follows:

From: "1 Port the CO Bottle (5 lb.)"

Portable CO2 Bottle (Four-1b.) Walter Kidde 870905" To:

Add the following to the bottom of page:

""Fixed Useful Load"

This change results in a weight decrease of one pound per airplays,

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date,

ect Engineer

AJS: JMC: eed

CONVAIR - SD

SALES ORDER

Sold to:

Hughes Tool Company

Date:

22 September 1958

Houston, Texas

80 No:

880-1-173

Reference:

(a) TWA letter 880-739A-167 dated 9/17/58

(b) Commercial Change Proposal No. 188

WO No:

30,000 Series

(c) MCL No. 256

(d) D.I.B. No. 4.010

MODEL 880 - TWA

BATTERY, CHANGE OF FROM 24 TO 27.5 VOLTS

- (1) TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL 256, reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (10/20/58) per reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, price or delivery schedule.

REC : dra

of Contracts

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SFP 24'58

PROJECT SPEC. GROUP

C O N V A I R A Division of General Dynamics Corporation (San Diego)

TWA MINUTES
24 September 1958

No. 147 22-1

Reference:

(a) S.O. 880-1-173, dated 22 September 1958

(b) Commercial Change Proposal No. 188

(c) MCL No. 256

1. BATTERY, CHANGE OF, FROM 24 TO 27.5 VOLTS.

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based on MCL 256, reference (c).

Description of Change:

Page 66, Paragraph 3.16.2.3 BATTERIES:

Revise the first sentence to read as follows:

"Battery power of 27.5 volts shall be available."

Page 66, Paragraph 3.16.2.4.2 BATTERY COMPARTMENT FINISH:

Revise paragraph and paragraph title as follows:

"BATTERY AREA FINISH: The battery area shall be painted with electrolyteresistant paint."

Page A-4 Rev., APPENDIX I-C, ELECTRICAL EQUIPMENT:

Change the 10th item in Description List as follows:

From: "1 Battery, Storage, Nickel-Cadium" (24 volt or 2 -12 volt)

To: - "1 Battery, Storage, Nickel-Cadium, 27.5 volt"

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

A. J. Savard Project Engineer CONVAIR - SD

SALES ORDER

Sold to:

Hughes Tool Company

Date:

22 September 1958

Houston, Texas

SO No:

880-1-172

Reference:

(a) TWA letter 880-738A-166 dated 9/17/58

WO No:

30,000 Series

(b) Commercial Change Proposal No. 210

c) MCL No. 291

(d) D.I.B. No. 4.010

MODEL 880 - TWA

SPECIFICATION AIMINISTRATIVE CHANGE - INSTALLATION OF A ROTARY

TYPE STATIC SELECTOR VALVE

- (1) TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL 291, reference (c). Accordingly, all departments concerned are directed to proceed with the change cutlined in reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (10/20/58) per reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, price or delivery schedule.

REC:dm

for C. G. Glasgow
Menager of Contracts

SEP 24'58

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PROJECT SPEC. GROUP

Log No. 4958

CONVAIR A Division of General Dynamics Corporation (San Diego)

TWA MINUTES 24 September 1958

No. 146 22-1

Reference: (a) S.O. 880-1-172, dated 22 September 1958 (b) Commercial Change Proposal No. 210

(c) MCL No. 291

1. SPECIFICATION ADMINISTRATIVE CHANGE - INSTALLATION OF A ROTARY TYPE STATIC SELECTOR VALVE

TWA has accepted, as evidenced by reference (a), our proposal, reference (b). based on MCL 291, reference (c).

Description of Change:

Page 59, Paragraph 3.14.3.2.2 STATIC SELECTOR VALVES:

Change the following words in the first line:

From: "toggle-type"

To: "rotary-type"

Change the following word in the last line:

From: "instrumer.

To: "auxiliary"

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

> A. J. Savard Project Engineer

AJS:JMC:eed

NA

##R Haed:

9 O'tober 1958

"Reviseds DATES

20 September 1958 12 September 19,6

hash a tool Company and Town Pakis

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SO No:

330-1-171

(W. atter Commedy to Reynance, and 1 August 1950

WO No:

30, DC Stries

(Parause or went Hughes Per Company and General Dynamics Comporation - Article 10

Far FW1 ditted 3 September 1950

MODEL DO - INA

ADDITIONAL B UIPMENT TO HE PURCHASED FROM TWA

Order authorizes the Material Department to issue Furchase Or er in the Hughes Tool Company, c/o R.W. Rummel, Special Representative, ing the hoad Kanses City 5, Missouri, covering the following equipand ... orresponding prices

	. Des ription	On Dock Dates	Init Cost
	Ti masseler (P,W TRXID-13 per	8/0) 10/1/53	\$ 250 00
		1 10/1/2	L. OK.
	710 1. 16 53: (P 3 14-330 - 1 per /c,	12/5/50	15.00
g.	and the second - Walter Midde		
	Tell Mily I ger . /c)		200.00

to a state on age order will be issued at a future date which ... The me amount ice of the aircraft accordingly.

This forder cance a and supersed a S.C. 100-1-107 together with the story is the story of the story of the story listed was which were proviously designated as customer vended equipment.

Till and Order will be revised from time to time to provide for wilt. of contracted stems.

- (5) Items a, b and a have been received from WMA and transferred to the Building 43 stockroom to await disposition.
- (6) This Sales Order is revised to authorize the transfer of the items Listed in Paragraph (1) from CFE Stores, Bldg. 43, to Inventory Stores, Room Canyon.

5040 5101

Revised to add para. (5)

*Raviord to add page. (6) 23C

Manager of Contracts

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PROJECT SPEC. GROUP

C O N V A T R A Division of General Dynamics Corporation (San Diego)

TWA MINUTES

18 September 1958

No. 145

22-1

Reference:

- (a) S. O. No. 880-1-171 dated 12 September 1958
- (b) S. O. No. 880-1-167 dated 29 August 1958
- (c) Article 10 of Purchase Agreement, Bughes Tool Company

and General Dynamics Corporation

(d) TWA Minutes No. 143 dated 4 September 1958

1. ADDITIONAL EQUIPMENT TO BE FURCHASED FROM TWA

Sales Order, reference (a), authorizes the Material Department to issue Purchase Orders to the Hughes Tool Company, c/o R. W. Rummel, Special Representative, 10 Richards Road, Kansas City 5, Missouri, covering the following equipment and corresponding prices:

	Description	On Dock Dates	Unit Cost
b.	TWI Transceiver (P/N TRXED-13A - 1 per a/c) Transceiver Shockmount (P/N 290-2537 - 1 per a/c) First Aid Kit (P/N 44-0336 - 1 per a/c) Oxygen Bottle - Walter Kidde	10/1/58 10/1/58 12/5/58	\$250.00 31.00 15.00
u.	(P/N 890491 - 3 per A/C)		260.00

This Sales Order cancels and supercedes S. O. 880-1-167, reference (b) and reference (d) Minutes.

ACTION: All Concerned are authorized to proceed with the above.

A. J. Saverd Troject Engineer

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PROJECT SPEC. GROUP

CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company

Date:

5 September 1958

Houston, Texas

SO No:

880-1-170

Reference: (a) TWA TWX, 880-723A-165 dated

8/29/58

WO No: 30,000 Series

(b) Commercial Change Proposal No. 203

(c) MCL Hr. 273

D. I.J. No. 4.010

MODEL 880 - TWA

SPARE WIRING IN KLECTRONIC RACKS, INSTALLATION OF

- (1) TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL 273, reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (9/30/58) per reference (d).
- (3) This change has no effect on guaranteed weight empty, performance or delivery schedule.

C. G. Glasgow Manager of Contracts

Log No. 4796

COHVAIR A Division of General Dynamics Corporation (San Diego)

TWA MUNUFUES

4 September 1958

No. 144 22-1

- REference: (a) S.O. 880-1-170 dated 3 September 1958
 - (b) Commercial Change Proposal No. 203

(c) MCL No. 273

1. SPARE WIRING IN ELECTRONIC RACKS, INSTALLATION OF

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based on MCL 273, reference (c). The task is as follows:

VIGNIDOR:

- a. Rework Shelf "B" internal harness 22-32842 by adding one wire from pin 41 of equipment unit plug to terminal 14 of terminal strip 1B.
- b. Rework Shelf "B" internal harness 22-32840 by removing existing wire from pin 17 of bottom equipment unit plug to pin 21 of bottom equipment unit plug.
- c. Rework Shelf "B" internal harness 22-32845 by adding one wire from pin 17 of equipment unit plug to terminal strip.
- d. Rework Shelf "A" internal harness 22-32809 by removing existing wire from pin 6 of equipment unit plug to pin 9 of equipment unit plug R/T unit.
- e. Rework Shelf "C" internal harness 22-32806 by removing existing wire from pin 6 of equipment unit plug to pin 21 of equipment unit plug. Remove existing wire from pin 33 of equipment unit plug to pin 22 of equipment unit plug.

CONVAIR TASK:

- a. Rework DMET No. 1 control panel harness 22-31841 by changing two wires in control panel plug.
- b. Rework Selcal harness 22-32959 by adding one wire from equipment unit plug to sudio "J" box.
- c. Rework weather radar antenna harness 22-31803 and 22-31801 by removing wire from pin X to pin Y of connector.
- d. Rework weather radar indicator harness 22-31800 by removing existing wires from pin 10 to pin 18 and pin 21 to pin 19 of indicator plug.
- e. Rework DMET No. 2 control panel harness 22-31961 by changing two wires in control panel plug.
- f. Rework ATC beacon control harness 22-31805 by changing two wires in control panel plug.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward rev. spec. pages to Contracts within 4 weeks of Sales Order date.

Profect Engineer

CONVAIR-SAN DIEGO

ACCOUNTING SALES ORDER

Sold to:

Hughes Tool Company

Houston, Texas

Date:

3 September 1958

SO No:

880-1-169

WO No: 30,000 Series

MODEL 880 - HUTHES TOOL COMPANY

GEATER-CEDER NO. 19

(1) Attached is a copy of Change Order No. 19 signed by Hughes Tool. Company which amends Detail Specification Report No. 2D-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change Nos. 22E, 116, 141A, 145, 148, 155, 159, 161 162, 164, 166 and 168 on the Model 880 aircraft.

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g C. G. Clangow Menager of Contracts

ce: E. Burke (v/exec. copy)
880 Project Office (v/attach 2)
Comm. Sales (v/attach)
H.A. Kayes (v/attach)
Contracts Staff Section (v/attach)
E. E. Johnson (v/attach)
J. Doig (v/attach)

W. F. Brown (w/attach)
G. Whisler (w/attach)
H.R. Kennedy (w/attach)
Commercial Contracts
Arthur Anderson & Co.
Change Order No. 19

CHANGE ORDER NO. 19

to

HUGHES TOOL COMPANY

Detail Specification Report No. 7D-22-002 Dated 1 June 1956, Revised 7 September 1956

- A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change Nos. 22E, 116, 141A, 145, 148, 155, 159, 161, 162, 164, 166, and 168 and Commercial Change Proposal Summary No. 18 attached hereto and made a part hereof.
- B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balances

As reflected in Specification Changes and Commercial Change Proposal Summary No. 18 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 18 attached.

E. Effect on delivery:

None

- F. This Change Order results in the following charges and/or credits:
 - 1. Change No. 22E Water System, Single 50 Gallon Tank (Pages 57, 108Cont, and A-14)

No Charges or Credits

2. Change No. 116 - VHF Communication Antenna, Relocation of (Pages 96 and A-5)

No Charges or Credits

3. Change No. 141A - Bilingual Passenger Signs (Pages 77, 112, A-3, and A-14)

	Per A	irplane	 tal for Airplanes
Recurring Charge	\$	107.00	3,210.00 3,030.00
Total Charges	8	208,00	\$ 6,240,00

CHANCE ORDER NO. 19 to HUGHES TOOL COMPANY Specification Report No. ZD-22

Detail Specification Report No. ZD-22-002 Dated 1 June 1956, Revised 7 September 1956

40	Change No. 145 - Specification Admin- istrative Change (Main Entrance Doors) (Page 29)	No Charges or Credits
		no Charkes or Cleary es
5.	Change No. 148 - Specification Admin- istrative Change (Air Cond. Controls) (Page 119)	No Charges or Credits
		0.22500 01 010010
6.	Change No. 155 - Engine Pressure Ratio (Page A-8)	
		Per Airplane 30 Airplanes
	Recurring Credit Non-recurring Charge	\$ 1,109.90 \$ 33,270,00 198.00 5,940.00
	Total Credits	\$ 911,00 \$ 27,310,00
7.	Change No. 159 - Stewardess Seat and Handset (Page 99, 105, and 108 Cont)	No Charges or Credits
8.	Change No. 161 - Specification Admin- istrative Change (DMET)(Page 89 and 102)	No Charges or Credits
		we custiges or creates
9.	Change No. 162 - Specification Admin- istrative Change (Cargo Space Capacity) (Pages 14 and 15)	No Charges or Credits
		ue duct goo of or earing
10.	Change No. 164 - External Power Provisions (Pages 57, 66, and 79)	
	Recurring Charge Non-recurring Charge	\$ 912.00 \$ 27,360.00 731.00 21,330.00
	Total Charges	\$ 1,623.00 \$ 48,690.00

CHANGE ORDER NO. 19 to HUGHES TOOL COMPANY Detail Specification Report No. ZD-22-002 Dated 1 June 1956, Revised 7 September 1956

11. Change No. 166 - Wheel Well Fire Detectors (Pages 80 and 116)

	Per Airplane 30 Airplan		
Recurring Credit Non-recurring Charge	\$ 193.00 84.00	\$ 5,790.00 2,520.00	
Total Credits	\$ 109,00	\$ 3,270,00	

12. Change No. 168 - Nacelle Fire Extinguisher (Page 115)

No Charges or Credits

13. Summary of the foregoing charges and/or credits:

	Per Airplane	Total for 30 Airplanes
Recurring Credits Non-recurring Charges	\$ 283.00 1.094.00	\$ 8,490.00 32,820.00
Total Charges	\$ 811,00	\$ 24,330,00

- G. The attached Specification Change Nos. 22E, 116, 141A, 145, 148, 155, 159, 161, 162, 164, 166, and 168 and Commercial Change Proposal Summary No. 18 are hereby incorporated into and become a part of Detail Specification Report No. ZD-22-CO2 dated 1 June 1956, Revised 7 September 1956.
- Ho Notwithstanding any other provisions of the Purchase Agreement and/or this Change Order No. 19 it is expressly understood and agreed that the execution hersef by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order No. 18 as said

CHANGE ORDER NO. 19 to HUGHES TOOL COMPANY Detail Specification Report No. ZD=22=002 Dated 1 June 1956, Revised 7 September 1956

Change Order was executed by General Dynamics Corporation. In the event that said Change Order No. 18 is so executed by Hughes Tool Company, this Change Order No. 19 shall be considered in full force and effect. In the event said Change Order No. 18 is not so executed by Hughes Tool Company, this Change Order No. 19 shall be void and of no effect.

I. Except as herein modified all provisions of the Detail Specification shall remain in effect.

Accepted and agreed to	
This 25th day of August 1958.	
HUGHES TOOL COMPANY	GENERAL DYNAMICS CORPORATION
By R. W. Russel	By Thomas B. Eastland, Jr.
Title Special Representative	Title Chief of Contract Administration- Convair Division (San Diego)

CONVAIR-SAN DIEGO

ACCOUNTING SALES OFFIER

Sold to:

Hughes Tool Company Houston, Texas

Dette:

3 September 1958

50 No:

880-1-168

WO No:

30,000 Beries

MODEL 880 - HUGHES TOOL COMPANY

CHAMES ORDER NO. 18

(1) Attached is a copy of Change Order No. 18 signed by Hughes Teol Company, which amends Detail Specification Report No. 2D-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change Nos. 3A, 101A, 102A, 130, 140, 144, 149A, 150, 151 and 153 on the Model 880 aircraft.

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PROJECT
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WDW:da

Log Wo: -4798- 4805

A C. G. Glasgow Namagar of Contracts

cc: E. Burke (w/exec. copy)
880 Project Office(w/attach 2)
Comm. Sales (w/attach)
H.A. Kayes (w/attach)
Contracts Staff Section (w/attach)
E.E. Johnson (w/attach)
J. Doig (w/attach)

W. F. Brown (w/estach) G. Whisler (w/attach) H.R. Kennedy (w/estach) Commercial Contracts Arthur Anderson & Co. Change Order No. 18

CHANGE ORDER NO. 18

HUGHES TOOL COMPANY

Detail Specification Report No. ZD-22-002 Dated 1 June 1956, Revised 7 September 1956

- A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change Nos. 3A, 101A, 102A, 130, 140, 144, 149A, 150, 151, and 153 and Commercial Change Proposal Summary No. 17 attached hereto and made a part hereof.
- B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 17 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 17 attached.

E. Effect on delivery:

None

- F. This Change Order results in the following charges and/or credits:
 - 1. Change No. 3A Hydraulic Reservoirs (Pages 57, 63, A8, and All)

No Charges or Credits

2. Change No. 101A - Emergency Brake System (Pages 34, 34(cont), 58, 64, and A8)

	Per Airolane 30 Airplanes		
Recurring Charge	\$	241.00 241.00	\$ 7,230.00 7,230.00
Total Charges	\$	482,00	\$ 14,460,00

3. Change No. 102A - Emergency Speed Brake Control (Pages 19, 23, 32, 32(cont), and 33)

No Charges or Credits

CHANCE CRDER NO. 18

to

HUGHES TOOL COMPANY

Detail Specification Report No. ZD-22-002 Dated 1 June 1956, Revised 7 September 1956

4.	Change No. 130 - Nose Wheel Brake and Steering (Pages 56, 62, 64, and All)	No Charges or Cred	its
5.	Change No. 140 - P.A. and Interphone System (No Pages Affected)	Per Airplane 30 Airpla	
	Recurring Charge Non-recurring Charge	\$ 41.00 \$ 1,230 58.00 1,740	
	Total Charges	\$ 99.00 \$ 2.970	000
6.	Change No. 144 - Levatory Het Water Provisions (Page 108(cont))		
	Recurring Charge	\$ 991.00 \$ 29,730 404.00 12.120	
	Total Charge	\$ 1,395,00 \$ 41,850	000
7.	Change No. 149A - Single Loop AC Fenwal Fire Detector (Pages 86, 88, and 116)		
	Resurring Charge	\$ 970.00 \$ 29,100	
	Total Credits	\$ 970,00 \$ 29,100	000
8.	Change No. 150 - Rivets in Wing Leading Edges (Page 5)		
		No Charges or Cred	lits
9.	Change No. 151 - Airline Schedule Holder (Page 114)		
	Recurring Charge Non-recurring Charge	\$ 25.00 \$ 750. 34.00 1.020.	
	Total Charges	\$ 59.00 \$ 1.770	00

CHANGE ORDER NO. 18

HUCHES TOOL COMPANY

Detail Specification Report No. ZD-22-002 Dated 1 June 1956, Revised 7 September 1956

10.	Change No. 153 - 1,000 Watt Landing Lights (Fage 73)	Per Airolane	Total for 30 Airplanes
	Recurring Charge	\$ 43.00 141.00	\$ 1,290,00 4,230,00
	Total Charges	\$ 184,00	\$ 5,520,00
11.	Summary of the foregoing charges and/or oredits:		
	Recurring Charges Non-recurring Charges	\$ 371.00 878.00	\$ 11,130.00 26,340.00
	Total Charges	\$ 1.249.00	\$ 37,470,00

- G. The attached Specification Change Nos. 3A, 101A, 102A, 130, 140, 144, 149A, 150, 151, and 153 and Commorcial Change Proposal Summary No. 17 are hereby incorporated into and become a part of Detail Specification Report No. 2D-22-002 dated 1 June 1956, Revised 7 September 1956.
- H. Notwithstanding any other provisions of the Purchase Agreement and/or this Change Order No. 18 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order No. 17 as said Change Order was executed by General Dynamics Corporation. In the event that said Change Order No. 17 is so executed by Hughes Tool Company, this Change Order No. 18 shall be considered in full force and effect. In the event said Change Order No. 17 is not so executed by Hughes Tool Company, this Change Order No. 18 shall be void and of no effect.
- I. Except as berein modified all provisions of the Detail Specification shall remain in effect.

Accepted and agreed to	
This 25th day of August 1958.	
HUGHES TOOL COMPANY	GENERAL DYNAMICS CORPORATION
By R. W. Rummel	By Thomas B. Eastland, Jr.
Title Special Representative	Title Chief of Contract Administration-
	Convair Division (San Diego)

#Revised 12 September 1958 to cencel #Revised 9 September 1958

Date: 29 August 1958

SO No:

880-1-167

of rence: (a) TWA letter

13d ts.

(a) TWA letter Cannady to Reynard, dated 14 August 1958

/ Curchage Agraement Hughes Tool

WO No: 30,000 Series

Article 10

Martin Pool company

(c) 'FWA TWX datad 3 September 1958 MODEL 880 - TWA

CUSTOMER VENDED EQUIPMENT

This Sales Order authorises the Material Department to issue Purchase Orders to the Hughan Tool Company, c/o R. W. Rummel, Special Representative, 10 Hichards Road, Kansas City 5, Missouri, covering the following sustemer-rended equipment: and indicating the corresponding prices:

				Description	On Dook Dates	UNIT COST
ļ	e per a	/e	30	TWI Transcoiver (P/N TRXED-13A	10/1/58	\$ 250.00
1	e per a	/e	b	Transcalver Shockmount (P/N 290625	37) 10/1/58	31.00
1	e per a	/c	Ø ₀	First Aid KNt (P/W 44-0336)	12/5/58	15.00
1	se wor-		d.	Ourgen Bottle Walter Kidde (P/H 89	0491)	260.00
	45.48	-	in lite office	ection with these Items will be fur	raished Correir by	the gusta-
		Salit Con	THE PRINCE	note Carrett of astronite one	Lan at the Brushage	Ondano

1) The following notation should be problemently displayed on the face of each furnished Order:

THOT TO DE PAID BY CHECK, PAYMENT SHALL DE MASE

- ing the was of specific markings on skipments and shipping papers in order to insure correct and adequate identification and routing.
- (5) The interial Department is further requested to issue receiving reports and send copies to commercial Contracts upon receipt of CVE at Convair.
- (5) After receiving inspection, the material is to be routed to the appropriate Customer Parnished Equipment stockroom (per DSP 8-18 Suppl't 2) where it is to be held until required.
- ment requisitions have been created to properly record movement of material WED or stipulation of DSF 8=18 Supplet 2).

An appropriate change order will be issued at a future date which will in- 17'58 crease the price of the aircraft accordingly.

PEC.

Log No: 22 4885

#Revised to add :mef (c), amend pers (1) and delete perss (2) and (3).
Revised to cancel seles order-see 880-1-171

Manager of Contracts

C O N V A I R A Division of General Dynamics Corporation (San Diego)

TWA MINUTES
4 September 1958

No. 143

22-1

Reference:

(a) S.O. 880-1-167 dated 29 August 1958

(b) Article 10 of Purchase Agreement, Hughes Tool Company and General Dynamics Corporation.

1. CUSTOMER VENDED EXULTMENT

The Sales Order, reference (a), exthorines the Material Department to issue Purchase Orders to the Hughes Tool Company, c/o R. W. Russel, Special Representative, 10 Richards Road, Kansas City 5, Missouri, covering the following customer vended equipment:

	Description	On Dock Dates
a. b.	TWI Transceiver Transceiver Shockmount First Aid Kit	10/1/58 10/1/58 12/5/58

ACTION: All concerned are authorized to proceed with the above.

A. J. Saverd Project Engineer

AJS: JMC:rb

COHVAIR A Division of General Dynamics Corporation (San Diego)

THA MINUTES 4 September 1958

No. 143

Revised 23 September 1958

22-1

Reference: (a) S.O. 880-1-167 dated 29 August 1958 Revised 12 September 1958

Article 10 of Purchase Agreement, Hughes Tool Company and General Dynamics Corporation.

CUSTOMER VENDED EQUIPMENT

The Sales Order, reference (a), authorizes the Material Department to issue Purchase Orders to the Hughes Tool Company, c/o R. W. Rummel, Special Representative, 10 Richards Road, Kansas City 5, Missouri, covering the following customer vended equipment:

	Description	On Dock Dat	88
8.	#11 Transceiver	10/1/58	
b.	Transceiver Shockmount First Aid Kit	7.776.1	OID

2. Revised to cancel minutes. See Minutes #145.

ACTION: All concerned are authorized to proceed with the above.

AJS: JMC:rb

CONVAIR-SAN DIEGO

ACCOUNTING SALES OF DER

Sold to:

Rughes Tool Company Houston, Texas

Date: 18 August 1958

SO No:

880-1-166

WO No:

30,000 Series

MODEL 880 - HUGHES TOOL COMPANY

CHANGE OFDER NO. 17

(1) Attached is a copy of Change Order No. 17 signed by Hughes Tool Company, which amends Detail Specification Report No. ZD-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change Nos. 00, 4, 44B, 54, 86A, 117, 118A, 127, and 134A on the Model 880 aircraft.

J WDW:bc

Log No: 4690

COK 07/1000 C. G. Glasgow Manager of Contracts

cc: E. Burke (w/exec. copy)
880 Project Office (w/attach 2)
Comm. Sales (w/attach)
H. A. Kayes (w/attach)
Contracts Staff Section (w/attach)
E. E. Johnson (w/attach)
J. Doig (w/attach)

W. F. Brown (w/attach)
G. Whisler (w/attach)
H. R. Kennedy (w/attach)
Commercial Contracts
Arthur Anderson & Co.
Change Order No. 17

RECEIVED

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CHANGE CRDER NO. 17 to HUGHES TOOL COMPANY Detail Specification Report No. ZD-22-002 Dated 1 June 1956, Revised 7 September 1956

- A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change Nos. 00, 4, 44B, 54, 86A, 117, 118A, 127, and 134A and Commercial Change Proposal Summary No. 16 attached hereto and made a part hereof.
- B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 16 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 16 attached.

E. Effect on delivery:

Non9

- F. This Change Order results in the following charges and/or credits:
 - 1. Change No. 00 Deletion of Deodorant Canister (Pages 109 and A-14)

No Charges or Credits

2. Change No. 4 - Airplane Configuration Detail, Revision of (Pages 15, 36, 38, 39, 40 and 41)

No Charges or Credits

3. Change No. 44B - Gaseous Oxygen System (Pages 117 and A-18)

No Charges or Credits

4. Change No. 54 - Deletion of Exciter Ceiling Protection (Page 65)

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No Charges or Credits AUG 18'58

PROJECT SPEC. GROUP

CHANGE ORDER NO. 17

to

HUGHES TOOL COMPANY

Detail Specification Report No. ZD-22-002 Dated 1 June 1956, Revised 7 September 1956

5.	Change No. 86A - Electronic Panel Change (Pages 90 and A-7)		Mark 3. Carr
		Per Airplane	Total for 30 Airplanes
	Recurring Charge Non-recurring Charge	\$ 256.00 54.00	\$ 7,680.00 1,620.00
	Total Charges	\$ 310.00	\$ 9,300,00
6.	Change No. 117 - Compass Comparator, Installation of (Pages 56 and A-8)		
	Recurring Charge	\$ 345.00 787,00	\$ 10,350.00 23,610,00
	Total Charges	\$ 1,132,00	\$ 33,960.00
7.	Change No. 118A - Federal Regulations (Revised) Pages 8 and 74)	No Char	ges or Credits
8.	Change No. 127 - Tinted Windows (Page 28)		
	Recurring Charge Non-recurring Charge	\$ 17.00 58.00	\$ 510.00 1,740.00
	Total Charges	\$ 75.00	\$ 2,250.00
9.	Change No. 134A - CAA Flight Data Recorders (Page 61)		
	Recurring Charge Non-recurring Charge	\$ 469.00 152.00	\$ 14,070.00 4,560.00
	Total Charges	\$ 621.00	\$ 18,630.00
10.	Summary of the foregoing charges and/or credits:		270-
	Recurring Charges Non-recurring Charges	\$ 1,087.00 1,051.00	\$ 32,610.0BECEIVED 31,530.00 AUG 1 8'58
	Total Charges	\$ 2,138.00	\$ 64,140,00 ROJECT SPEC. GROUP

CHANGE ORDER NO. 17 to HUGHES TOOL COMPANY Detail Specification Report No. 2D-22-002 Dated 1 June 1956, Revised 7 September 1956

- G. The attached Specification Change Nos. 00, 4, 44B, 54, 86A, 117, 118A, 127, and 134A and Commercial Change Proposal Summary No. 16 are hereby incorporated into and become a part of Detail Specification Report No. ZD-22-002 dated 1 June 1956, Revised 7 September 1956.
- H. Notwithstanding any other provisions of the Purchase Agreement and/or this Change Order No. 17 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order No. 16 as said Change Order was executed by General Dynamics Corporation. In the event that said Change Order No. 16 is so executed by Hughes Tool Company, this Change Order No. 17 shall be considered in full force and effect. In the event said Change Order No. 16 is not so executed by Hughes Tool Company, this Change Order No. 17 shall be void and of no effect.
- I. Except as herein modified all provisions of the Detail Specification shall remain in effect.

- CONVAIR -Approved as to Legality & Form s. 5/26 1958

Accepted and agreed to	
This 11 day of August 1958	
HUGHES TOOL COMPANY	GENERAL DYNAMICS CORPORATION
By R. W. Rummel	By C. G. Glasgow
Title Special Representative	Title Manager of Contracts
	Convair Division San Diego
	San Diego

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CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company

Date: 8 August 1958

Houston, Texas

SO No:

880-1-165

Reference:

(a) TWA TWX, 880-697A-161, dated

WO No:

30,000 Series

7 August 1958 (b) Commercial Change Proposal No. 199A

(c) MCL 271

(d) D. I. B. No. 4.010

MODEL 880 - TWA

FLIGHT DEVIATION INDICATOR - REVISION TO

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 271, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (9/5/58) per Reference (d).
- (3) This change results in a weight increase of two pounds per airplane, with no effect on performance, delivery schedule, or contract price.

C. G. Glasgow Manager of Contracts

WIN he

Log No: 4643

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AUG 12'5"

SPEC. GROUP

C O N V A I R A Division of General Dynamics Corporation (San Diego)

TWA MINUTES 12 August 1958

> No. 142 22-1

Reference:

- (a) S. O. 880-1-165 dated 8 August 1958 (b) Commercial Change Proposal No. 199A
- (c) MCL No. 271

1. Flight Deviation Indicator, Revision to

TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based on MCL No. 271, Reference (c). The task is as follows:

Procure and install two (2) Bendix flight deviation indicators similar to and in lieu of Bendix part number 7227-3A-12-Al. The new indicators to incorporate a 28 volt integral light. The new instruments are interchangeable.

Revise three (3) harnesses by adding 2 wires per harness (approximately 7° long).

Engineering Schedule

Mechanical Portion

Mechanical Portion F/R 8/19 Furnishings Portion F/R 8/11

This change results in a weight increase of two pounds per airplane.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS:JMC:18

A. J. Savard Project Engineer

SALES ORDER

Sold to: Hughs

Hughes Tool Company

Houston, Texas

Date:

8 August 1958

BBXB

SO No:

880-1-164

Reference:

(a) TWA letter, 880-685A-159, dated

21 July 1958

WO No:

30,000 Series

(b) Commercial Change Proposal No. 189 (c) MCL 251

(d) D. I. B. No. 4.010

MODEL 880 - TWA

LOW ENERGY IGNITION SYSTEM - INSTALLATION OF

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 251, Reference (c) Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weaks (9/5/58) per Reference (d).
- (3) This change results in a weight increase of 35 pounds per airplane with no effect on performance, delivery schedule, or contract price.
- (4) TWA has been assured in accordance with instructions from the Engineering Froject Office that provisions covered by this proposal will be adequate to handle electrical load inputs of two high energy systems firing simultaneously, but that the existing switching arrangemen is not sufficient to accomplish this result. Departments concerned are directed to assure compliance with the foregoing, but it need not be incorporated in revised specification language.

(A) C. G. Glasgow Manager of Contracts

William

Log No: 4644

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SPEC. GROUP

CONVAIR A Division of General Dynamics Corporation (San Diego) TWA MINUTES 12 August 1958 (b) Commercial Change Proposal No. 189

No. 141 22-1

Unas

Reference (a) S. O. 880-1-164 dated 8 August 1958

(c) MCL No. 251

1. Low Energy Ignition System - Installation of

TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based on MCL No. 251, Reference (c).

Description of Change:

Page 78, add the following new paragraph to the page after paragraph 3.16.9:

"3.16.9.1 low energy ignition system; A secondary, low energy type ignition system shall be installed for engine starting under less severe conditions, to provide selective starting with the high energy system specified in Par. 3.16.9. Controls for ignition shall be located in the pilot's compartment."

TWA has been assured that provisions covered by this proposal will be adequate to handle electrical load imputs of two high energy systems firing simultaneously, but that the existing switching arrangement is not sufficient to accomplish this result.

This change results in a weight increase of 35 pounds per airplane.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS:JMC:is

ect Engineer

SALES ORDER

Sold to:

Hughes Tool Company

Houston, Texas

Date:

8 August 1958

SO No:

880-1-163

Reference:

(a) TWA letter, 880-693A-160,

dated 5 August 1958 (b) Commercial Change Proposal No. 204

WO No: 30,000 Series

(c) MCL No. 207

(d) D.I.B. No. 4.010

SPECIFICATION ADMINISTRATIVE CHANGE - STABILIZER TRIM CONTROL

MODEL 880 - TWA

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 207, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (9/5/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, delivery schedule, or contract price,

Log No: 4645

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AUG 12'58 PROJECT

SPÉC. GROUP

C O N V A I R A Division of General Dynamics Corporation (San Diego)

TWA MINUTES

12 August 1958

No. 140 22-1

Reference:

- (a) S. O. 880-1-163 dated 8 August 1958
- (b) Commercial Change Proposal No. 204

(c) MCL No. 207

1. Specification Administrative Change - Stabilizer Trim Control

TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), prepared in accordance with MCL No. 207, Reference (c).

DESCRIPTION OF CHANGE:

Page 40, Paragraph 3.10.1.5.1 STABILIZER TRIM CONTROL:

Revise the entire paragraph to read as follows:

"STABILIZER TRIM CONTROL: An electrically operated motor and clutch assembly shall be incorporated in the stabilizer trim system to provide control of stabilizer trim by means of switches installed on a knob on the upper part of the outboard horn of the pilot s and co-pilot control wheels. Switches shall be installed at an angle inclined forward of the vertical. The switches shall be of the slide contact type and shall operate up and forward for nose down trim and down and aft for nose up trim. An override switch shall be provided on the pedestal, adjacent to the stabilizer hydraulic cutoff, capable of disconnecting all power to the electric stabilizer trim system. This switch shall be guarded in the "on" position.

ACTION:

All concerned are authorized to proceed with the above. { tions Group to forward revised specification pages to Cont within four weeks of Sales Order date.

ca-

AJS: JMC:18

A. Savard Project Engineer Sold to:

Hughes Tool Company

Date:

23 July 1958

Houston, Texas

SO No:

880-1-162

Reference:

(a) TWA letter, 880-680A-157,

dated 17 July 1958

WO No:

(b) Commercial Change Proposal No. 1288

30,000 Series

(e) MCL No. 255

(d) D.I.B. No. 4.010

MODEL 880 - TWA

MISCELLANEOUS ELECTRONIC CLARIFICATIONS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 255, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (8/20/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, delivery schedule, or contract price.

Manager of Contracts

Log NO, 4496

SALES ORDER

Sold to: Hughes Tool Company

Date:

23 July 1958

Houston, Texas

SO No:

880-1-161

Reference:

(a) TWA letter, 880-682A-158,

WO No: 30,000 Series

dated 17 July 1958
(b) Commercial Change Proposal No. 191

(c) MCL No. 259

(d) D.I.B. No. 4.010

MODEL 880 - TWA

HAT RACK CANOPY LENGTH

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 259, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (8/20/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, delivery schedule, or contract price.

C. G. Glasgew Manager of Contracts

NDW : bg

Log No: 4497

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JUL 25'58

PROJECT SPEC. GROUP

CONVAIR A Division of General Dynamics Corporation (San Diego)

TWA MINUTES

24 July 1958

No. 138

22-1

(a) S.O. 880-1-161 dated 23 July 1958

(b) Commercial Change Proposal No. 191

(c) MCL No. 259

1. HAT RACK CANOPY LENGTH

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL 259, reference (c).

DESCRIPTION OF CHANGE:

Page 113, Paragraph 3.19.3.3 TRIM

Change the period at the end of second sentence to a comma and add the following:

"except for the panels above the cabin hat racks which shall not exceed approximately 15 feet."

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

ect Engineer

AJS:JMC:rb

CONVAIR A Division of General Dynamics Corporation (San Diego) TWA MINUTES

24 July 1958

No. 139

22-1

Reference (a) S.O. 880-1-162 dated 23 July 1958

(b) Commercial Change Proposal No. 128B (c) MCL No. 255

1. MISCELLANEOUS ELECTRONIC CLARIFICATIONS

TWA has accepted, as evidenced by reference (a), our proposal, Reference (b) based upon MCL 255, reference (c).

A copy of the proposal is attached.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS: JMC: rb

SALES ORDER

Sold to:

Hughes Tool Company

Date:

18 July 1958

Houston, Texas

SO No:

880-1-160

Reference:

(a) TWA TWX, 880-653A-151, dated

30 June 1958

WO No:

30,000 Series

(b) Commercial Change Proposal No. 181

(c) MCL No. 228

(d) D.I.B. No. 4.010

MODEL 880 - TWA

INCREASE MAXIMUM LANDING WEIGHT TO 132,800 POUNDS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 228, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (8/15/58) per Reference (d).
- (3) This change results in an increase in the guaranteed weight empty of the aircraft of 80 pounds with no effect on performance or delivery schedule.

FOR ACCOUNTING DEPARTMENT ONLY

(4) This change results in an increased price per airplane of \$985 for a total contract increase of \$29,550, amortized over a 40 airplane program.

C. G. Glasgor Manager of Contracts RECEIVE

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SPEC. GROUP

WDW:be

Log No: 4454

CONVAIR A Division of General Dynamics Corporation (San Diego)

TWA MINUTES

22 July 1958

No. 137 22-1

Reference:

- (a). S. O. 880-1-160 dated 18 July 1958
- (b). Commercial (c). MCL No. 228 Commercial Change Proposal No. 181

Increase maximum landing weight to 132,800 pounds. 1.

> TwA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), to increase the maximum landing weight to 132,800 pounds without any change in maximum zero fuel weight.

This change results in a weight empty increase of 80 pounds per airplane.

ACTION:

All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS:JMC:1a

Project Engineer

SALES ORDER

Sold to:

Hughes Tool Company

Date:

16 July 1958

Houston, Texas

SO No:

880-1-159

Reference:

(a) TWA letter, 880-665A-154, dated

8 July 1958

WO No:

30,000 Series

(b) Commercial Change Proposal No. 91B (c) MCL No. 117

(d) D.I.B. No. 4.010

MODEL 880 - TWA

VGH RECORDERS, SPACE PROVISIONS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 117, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (8/13/58) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, contract price, delivery schedule, or aircraft performance.

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JUI 23'58 PHOJECT

SPEC. GROUP

Log No 4476

C O N V A I R A Division of General Dynamics Corporation (San Diego)

TWA MINUTES

22 July 1958

No. 136

22-1

Reference:

(a). S. O. 880-1-159 dated 16 July 1958

(b). Commercial Change Proposal No. 91 B

(a). MCL No. 117

VGH Recorders, Space Provisions TWA has accepted, as evidenced by Reference (a), our Proposal Reference (b), based on MCL 117, Reference (c).

Page 61, Paragraph 3.14 INSTRUMENTS AND NAVIGATION EQUIPMENT:

Add the following new paragraph to the page:

"3.14.3.9 VGH RECORDING PROVISIONS: Provisions shall be made for the later installation of one VGH recorder on each of two airplanes" to record research data for gust studies. The ViH recorder provisions shall be on the auto-pilot rack and the acceleration transmitter provisions on the floor beam in the rear spar area. The provisions shall include the mountings and aluminum tubing from the co-pilot's static line and the pitot line to the autopilot rack. Means shall be provided for capping these lines when recorders are not installed. A circuit breaker, nameplate and the necessary wiring shall be installed."

Add the following foot note to the bottom of the page:

The specific airplanes on which the VGH recorder provisions shall be installed will be Convair Production No. 18 and 19 (TWA ship No. 12 and 13).

""Not to be a part of the Specification Language:

The following weight effect shall be subtracted from the as weighed figures when considering guaranteed weight of the affected airplanes and is not to be included in the accumulative specification weight figures.

Effect on Weight: +7.0 pounds

ACTION:

All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contrasts within three weeks of Sales Order date.

AJS:JMC:1s

A. J. Savard Project Engineer Sold to:

Hughes Tool Company

Houston, Texas

Date:

11 July 1958

(a) TWA TWX, 880-673A-156,

SO No:

880-1-158

Reference:

dated 10 July 1958

WO No:

30,000 Series

(b) Commercial Change Proposal No. 198 (c) MCL No. 267

(d) D.I.B. No. 4.010

MODEL 880 - TWA

CO-PILOT S CLOCK CHANGE OF

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 267, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (8/8/58) per Reference (d).
- (3) This change results in an increase in the guaranteed weight empty of the aircraft of one pound with no effect on performance or delivery schedule.

Manager of Contracts

RECEIVED

JUL 16'58

PHOJEUT SPEC. GROUP

Log No: مندور

A Division of General Dynamics Corporation (San Diego)

TWA MINUTES

22 July 1958

No. 135 22-1

Reference: (a). S. O. 880-1-158 dated 11 July 1958

(b). Commercial Change Proposal No. 198

(c). MCL 267

1. Co-pilot's Clock, Change of

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference(b), prepared in accordance with MCL 267, Reference (c).

Description of change:

Page 56, Paragraph 3.14.1.2 COPILOT'S INSTRUMENTS:

Delete the twelfth item in the instrument list as follows:

"One terrain warning indicator light assembly"

Page A-8, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Change the first item in the Description List as follows:

From: "3 Clock Elgin 2153W GRD. 690"

To: "2 Clock Elgin 2153W GRD. 690"

Add the following new item to the Description List:

"1 Clock (Copilot's) Wakmann Model No. 640-12-10"

Figure 3.14-1 PILOT'S AND COPILOT'S INSTRUMENT PANELS:

Ravise figure as required to reflect the above change.

This Change results in an increase in the guaranteed weight empty of one pound per airplane.

ACTION:
All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

A. A Savard Project Engineer

AJS : JMC :a

SALES ORDER

Sold to:

Reference:

Hughes Tool Company

Houston, Texas

Date:

10 July 1958

Houston, Texa

a) TWA letter, 880-662A-153, dated 3 July 1958

SO No:

880-1-157

(b) Commercial Change Proposal No. 196

WO No: 30,000 Series

(c) MCL No. 269

(d) D.I.B. No. 4.010

MODEL 880 - TWA

EMERGENCY BRAKE SYSTEM ACCUMULATOR CAPACITY

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 269, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b)1
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (8/7/58) per Reference (d).
- (3) This change has no effect on contract price, guaranteed weight empty, performance, or delivery schedule.

C. G. Glasgow Manager of Contrasts RECEIVED

JUL 16'58

PROJECT SPEC. GROUP

WDW:be

Log No: 4393

C O H V A I R A Division of General Dynamics Corporation (San Diego)

THA HINUTES

11 July 1958

No. 134

22-1

Reference: (a) 8.0. 880-1-157 dated 10 July 1958

b) Commercial Change Proposal No. 196

(c) MEL No. 269

1. EMERGENCY PRAKE STOTEM ACCUMULATOR CAPACITY

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), to clarify and correct the intent of the specification.

Description of change:

Page A-8, Appendix I-C, Instruments and Related Equipment:

Change the below listed item in the Description List as follows:

From: "One Air Bottle, 3000 pai, 800-Cubic Inch Capacity

(with pressure gage)"

TO: "One Air Bottle, 3000 psi, 400-Cubic Inch Capacity (with pressure gage)"

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weaks of Sales Order date.

A. J. Severd Project Engineer

Sold to:

Hughes Tool Company

Houston, Texas

Dates

7 July 1958

SO No:

880-1-156

References

(a) TWA TWX; 880-658A-152, dated

3 July 1958

WO No:

30,000 Series

Commercial Change Proposal No. 160A (a) MCL No. 194,

(d) D.I.B. No. 4.010

MODEL 880 - TWA

REVISION TO INTERIOR FABRIC WEIGHTS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 194, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary ravised specification pages to the Contracts Department within four weeks (8/4/58) per Reference (d).
- (3) This change results in a weight increase of 195 pounds per aircraft with no effect on contract price, performance, or delivery schedule.

Manager of Contracts

RECEIVED

ال 1 1 '58

PROJECT SPEC. GROUP

Log No: 4334

C O N V A I R A Division of General Dynamics Corporation (San Diego)

TWA MINUTES 8 July 1958

No. 133

22-1

Reference: (a) S.O. 880-1-156 dated 7 July 1958

(b) Commercial Change Proposal No. 160A

(c) MCL No. 194

1. Revision to Interior Fabric Weights

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), to adjust weights of fabric selected by the customer for interior trim.

Description of change:

Page A-15, APPENDIX I-C, FURNISHINGS:

Revise the below listed items under "Interior Trim" as follows:

Cabin Floor Covering	55.0	OZ
Cabin Floor Covering Up Sidewall	55.0	OZ
Buffet, Lavatory and Entrance Floor Covering	55.0	OZ
Cabin Wainscot Trim	20.0	
Seat Upholstering (36 doubles) Cabin	18.0	
Seat Upholstering (6 doubles) Lounge	16.0	
Seat Trim Liner (6 doubles) Lounge	20.0	OZ.

This change results in a weight increase of 195 pounds per airplane.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

A. J. Sevard Project Engineer

AJS: JMC:rb

44 7 Bos

CONVAIR-SAN DIEGO

SALES CRDER

Sold to:

Rughes Tool Company

Houston, Texas

Date:

26 June 1958

Reference:

(a) TWA letter, 880-639A-148,

dated 16 June 1958

SO No:

880-1-155

(b) Commercial Change Proposal No. 190

(c) MCL No. 258

(d) D.I.B. No. 4.010

WO No:

30,000 Series

MODEL 880 - TWA

LOCATION OF WATER FIRE EXTINGUISHERS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 258, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b),
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (7/24/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, contract price, performance, or delivery schedule.

Log No: 4293

G. Glasgow Manager of Contracts RECEIVED

JUL 7 '58 PROJECT

SPEC. GROUP

C O N V A I R A Division of General Dynamics Corporation (San Diego)

TWA MINUTES

30 June 1958

No. 132

22-1

Reference: (a)

(a) 8.0. 880-1-155 dated 26 June 1958 (b) Commercial Change Proposal No. 190

(c) MCL No. 258

1. LOCATION OF WATER FIRE EXTINGUISHERS

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based on MCL 258, reference (c).

Description of Change:

Page 116, Para. 3.19.4.3.2 WATER FIRE EXTINGUISHER:

Revise the paragraph to read as follows:

"Three veter fire extinguishers shall be provided; one located in the forward entrance area and two on the forward side of the partition immediately forward of the aft entrance way."

Dalete paragraph "3.19.4.3.3 PASSERGER COMPARTMENT FIRE EXTINGUISHERS"

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

A. J. Severd Project Engineer

AJS: JMC:rb

SALES ORDER

Sold to: Hughes Tool Company

Date: 25 June 1958

Houston, Texas

SO No:

880-1-154

Reference:

(a) TWA letter, 880-640A-149,

dated 20 June 1958

WO No:

30,000 Series

(b) Commercial Change Preposal No. 184

(c) MCL No. 261

(d) D.I.B. No. 4.010.

MODEL 880 - TWA

CHECK-OFF LIST

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 261, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contract Department within four weeks (7/23/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, contract price, performance, or delivery schedule.

WDW:be

Log No: 4299

Manager of Contracts

A Division of General Dynamics Corporation (Ban Diego)

THA MINUTES

30 June 1958

No. 131

22-1

Reference:

- (a) S.O. 880-1-154 dated 25 June 1958 (b) Commercial Change Proposal No. 184
- MCL No. 261

1. CHECK-OFF LIST

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based on MCL 261, reference (c).

Description of change:

Page 111, Para. 3.19.2.8.2 - CHECK-OFF LIST.

Delete the words "scroll-type" in first line.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS:JMC:rb

Sold to: Hughes Tool Company

Dates

23 June 1958

Houston, Texas

SO No:

880-1-153

Reference:

(a) TWA letter, 880-637A-147,

dated 16 June 1958

WO No:

30,000 Series

(b) Commercial Change Proposal No. 195

(c) MCL No. 260

(d) D.I.B. No. 4.010

MODEL 880 - TWA

DELETION OF LANDING FLARE PROVISIONS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 260, Reference (c). Accordingly, all departments concorned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (7/21/58) per Reference (d).
- (3) This change results in a weight decrease of 13 pounds per airplane with no effect on performance or delivery schedule.

og No: 4274

Manager of Contracts

CONVARR A Division of General Dynamics Corporation (San Diego)

MA T

TWA MINUTES

24 June 1958

No. 130

22-1

Reference: (a) S.O. 880-1-153 dated 23 June 1958

Commercial Change Proposal No. 195

DELETION OF LANDING FLARE PROVISIONS

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), prepared in accordance with reference (c).

The task is as follows:

- 1. Delete cutouts for flare holes at stations 1552 & 1559, remove door assys, 22-98033 and apply patches to skins installed.
- 2. Remove circuit breaker and name plate.
- 3. Fabricate and install new name plate.
- 4. Remove overhead exterior light panel, switch and plastic panel. Reference drawing #22-06417.
- 5. Fabricate and install new overhead exterior light penel and install new plastic penel.
- 6. Rework and reinstall 8 harnesses by removing 4 wires from 4 harnesses, 2 wires from 2 harnesses and 1 wire from 2 harnesses.
- 7. Wiring to be pre-released 2 weeks after go shead. Mechanical portion final release 8 weeks after go shead.
- 8. Remove brackets 22-98300-7 & 8 (2 es.) Remove clevis 22-98306 (2) Remove solenoid 22-09499-1 (2) Remove chute assemblies 22-98301-1 & -2 (1 ea.) Remove support 22-98305-1 & -2 (1 ea.)
- 9. Machanical portion item 8 not installed ship #1 flight test airplane.

Engineering will issue a special E.O. allowing the wires that are being deleted to be "dead-ended" on ship #1 only.

Engineering for item 8 on work statement will be released by 11 July 1958. Wiring will be pre-released 11 July 1958. Mechanical portion will be final released by 22 August 1958.

CONVAIR-SD

TWA Minutes No. 130, 22-1 24 June 1958 Page two

New overhead exterior light panel and plastic panel will be available for on-station installation in final assembly.

Back-up plate, which is installed in primary, will be available 8/1 for installation. (This includes placement of POR 2 seeks after go shead, including "walk-thru" AHM time and 3 weeks fabrication.)

This change results in a weight decrease of 13 pounds per airplane.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

A. J. Savard Project Engineer

AJB: JMC:rb

CONVAIR A Division of General Dynamics Corporation (San Diego)

TWA MINUTES

24 June 1958

No. 129

22-1

- (a) S.O. 880-1-152 dated 23 June 1958
 - Commercial Change Proposal No. 180

(c) MCL No. 224

1. DELETION OF LANDING FLARES

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), for deletion of the Landing Flares.

This change results in a weight decrease of 37 pounds per airplane.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

Bavard

rt Engineer

AJB: JMC:rb

LOWATR-SAN DIEGO

SALES ORDER

Hughes Tool Company Sold o:

Date:

23 June 1958

Houston, Texas

SO No:

880-1-152

Reference: (a) TWA letter, 880-636A-146,

WO No:

30,000 Series

dated 16 June 1958 (b) Commercial Change Proposal No. 180

(c) MCL No. 224

(d) D.I.B. No. 4.010

MODEL 880 - TWA

DELETION OF LANDING FLARES

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 224, Reference (c). Ascordingly, all departments concorned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (7/21/58) per Reference (d).
- (3) This change results in a weight decrease of 37 pounds per airplane with no effect on performance or delivery schedule.

Log No:

Manager of Contracts

SALES ORDER

old to Heghes The Company

Date:

12 June 1958

Houston, Texas

SO No:

880-1-151

Reference:

(a) TWA letter, 880-629A-145, dated 9 June 1958

WO No:

30,000 Series

(b) Commercial Change Proposal No. 182

(c) MCL No. 227

MODEL 880 - TWA

SUPPLEMENTARY FLUORESCENT LIGHTING ON FILOTS PANELS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 227, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department at the earliest possible date.
- (3) This change results in a weight increase per airplane of four (4) pounds, with no effect on performance, delivery schedule, nor contract price,

SJH:be

Manager of Contracts

CONVAIR

A Division of General Dynamics Corporation (San Diego)

TWA MINUTES

18 June 1958

No. 128 22-1

Reference:

- (a) 8.0. 880-1-151 dated 12 June 1958 (b) Commercial Change Proposal No. 182
- (c) MCL No. 227
- 1. SUPPLEMENTARY FLUORESCENT LIGHTING ON PILOTS' PANEL

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based on reference (c), MCL 227. The task is as follows:

- A. Add one circuit breaker and nameplate to circuit breaker panel.
- B. Fabricate and install three flourescent fixtures under glare shield mounting provisions already installed. Fixtures consist of sheet metal reflectors similar to those used in cockpit lighting mock-up.
- C. Purchase and install three 8 watt instant start ballasts.
- D. Replace pilot's white light rheostat with one containing a switch at the maximum incandescent brightness level such that when rheostat is turned to maximum level the flourescent fixtures will light in addition to the incandescent lights.
- E. Purchase and install three 8 watt T-5 lamps per sirplane.

mis change results in a weight increase of 4 pounds per sirplane.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within three weeks of Sales Order date.

A. J. Savard Project Engineer

2 Jun 3 458

Revised: 15 July 1959

O N

Supplied Committee

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Mindary 1958

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1 Purham Agreement Fy and Betuten General Dymanics and Eurhan Tool Company

Revised to add Paragraph (5)

MODEL 880 - THA

MICRO MASTER NEGATIVES

no Agreement No. 16 dated 20 September 1956, Canvair agreed to Hughes Toll Company one (1) Misro Master negative and one (1) contact the state of the s he was a second to manufactured and revisions and replacement for these accorded Convair's proposal and advised further details regarding " ustomer's requirements. Under reference (c) Amendment, the services the mountier have been made a matter of contractual obligation on the part I wait in our of on with the Purchase Agreement with Hughes Tool orphiy.

The ales (rise authorizes all concerned to proceed with the development to nesses y Micro Master negatives and raplacement service which is o linde the lo lowings

- diano process seela sopy of all "A" size drawings (# X 11") or ep ' si w ring diagrams.
- Mir Master set of all detail drawings, said set to consist one (1) 105 mm, aggative, one (1) plastic filing sleave and one (1) treper | dentif ed file envelope for each araning.
 - 1 (1 Maro Master 105 mm, set (same as in "B" above) of all wiring Larrans from which the wiring diagram manual pages are made if the riginal tracing size exceeds the wiring diagram manual page size exceeds 1" X 17" (if original tracing does not exceed manual page also or 11" X 17" a diago process reproducible copy only to furnish sale
- L. I later replacement service for the foregoing to be accomplished as manary at mix-month intervals until such time as all drawings and Market have been brought up to date with regard to the configuration the last argraft delivered under the Hughes Tool Company Pur has r en i

West Dillo.

leurem l'exer

Revised: 15 July 1959

a) ton mir tetter 11=5 5745 dated

WO No DO Serlas

TWA letter 880-454, dated 2 January 1958

By and Between General Dynamics and Hugnes Tool Company

n connection with material and services to be furnished to Hughes Toll appropriate and in paragraph (2) above, the following ere part of the followi

- The First set of diago septe and Micro Masters will be required not
- Propose and Miera Masters is to be limited to recuetions of 1/4 or /8 with the original drawing and no other reduction sizes are to be used.
- or give drawings only are to be used as the basis of developing
- to be identified to make it readily possible to make in projection viewers for correct projection.
- ddit onal negatives and filing sleeves and these additional negatives are to be identified and filed in the same envelope as the negatives bearing the same drawing number.

WDW: ed.

Manager f ortro

C O N V A I R A Division of General Dynamics Corporation (San Diego)

TWA MINUTES 16 June 1958

> No. 127 22-1

Reference: (a) S. O. 880-1-150 Dated 12 June 1958

1. MICRO MASTER NEGATIVES

Under Letter of Agreement No. 16 dated 20 September 1956, Convair agreed to furnish Hughes Tool Company one (1) Micro Master negative and one (1) contact print or one (1) reproducible copy of each drawing from which the first of the aircraft (880) is manufactured and revisions and replacements for these negatives and prints.

- 2. This Sales Order authorizes all concerned to proceed with the development of the necessary Micro Master negatives and replacement service which is to include the following:
 - A. One (1) diaso process sepia copy of all "A" sise drawings (8 1/2 x 11") except "A" sise wiring diagrams.
 - B. One (1) Micro Master set of all detail drawings, said set to consist of one (1) 105 mm. negative, one (1) plastic filing sleeve and one (1) properly identified file envelope for each drawing.
 - C. One (1) Micro Master 105 mm. set (same as in "B" above) of all wiring diagrams from which the wiring diagram manual pages are made if the original tracing size exceeds the wiring diagram manual page size or exceeds 11" x 17" (if original tracing does not exceed manual page size or 11° x 17° a diazo process reproducible copy only to be furnished).
 - D. Revision replacement service for the foregoing to be accomplished as necessary at sim-month intervals until such time as all drawings and diagrams have been brought up to date with regard to the configuration of the last mireraft delivered under the Hughes Tool Company Purchase Agreement.
- 3. In connection with material and services to be furnished to Hughes Tool Company as indicated in paragraph (2) above, the following are part of the customer's requirements and are to be provided as noted:

Page #2
TWA Minutes = 16 June 1958

- A. The first set of diase sepia and Micro Masters will be required not later than 30 days prior to delivery of the first aircraft.
- B. Preparation of Micro Masters is to be limited to reductions of 1/4 or 1/8 size of the original drawing and no other reduction sizes are to be used.
- C. Original drawings only are to be used as the basis of developing Micro Masters or diaso sepias.
- D. Each negative furnished is to be identified to make it readily possible to insert in projection viewers for correct projection.
- E. Large size drawings such as those in the "R" category will require additional negatives and filing sleeves and these additional negatives are to be identified and filed in the same envelops as the negatives bearing the same drawing number.

ACTION: All concerned are authorized to proceed with the above-

AJS : JMC : a

No po Savard Project Engineer

SALES ORDER

Sold to: Hughes

Hughes Tool Company

Date:

12 June 1958

Houston, Texas

SO No:

880-1-149

Reference:

(a) TWA letter, 880-626A-144, dated

WO No:

30.000 Series

6 June 1958 (b) Commercial Change Proposal No. 133A

(c) MCL No. 240

MODEL 880 - TWA

SPECIFICATION ADMINISTRATIVE CHANGE - POWER PLANT ITEMS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 240, Reference (c), with the following exception:
 "The paragraph numbered 3.12.9.13.2 should be numbered 3.12.9.13.3."
 Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b) and the exception noted above. A revised Commercial Change Proposal will not be necessary.
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department at the earliest possible date.
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, nor contract price.

S.TH. ba

Log No: ARCH

C. G. Glasgow
Manager of Contracts

A Division of General Dynamics Corporation (San Diego)

THA MINITES

13 June 1958

No. 126 22-1

Reference:

- (a) S.O. 880-1-149 dated 12 June 1958
- (b) Commercial Change Proposal No. 133A

(c) MCL No. 240

1. SPECIFICATION ADMINISTRATIVE CHANGE - POWER PLANT ITEMS

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), with the following exception:

"The paragraph numbered 3.12.9.13.2 should be numbered 3.12.9.13.3."

A revised Commercial Change Proposal will not be necessary. A copy of the proposal is attached.

ACTION: All concerned are suthorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts at the earliest possible date.

A. J. Severd Project Engineer

AJS: JMC:rb

CEPS.# 20

CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company - Date:

10 June 1958

Houston, Texas

SO No:

880-1-148

Reference: (a) TWA letter, 880-624A-143, dated

4 June 1958

WO No:

30,000 Series

(b) Commercial Change Proposal No. 21A

(e) MCL No. 87

MODEL 880 - TWA

FUEL SYSTEM, CHANCE FROM PRESSURE SYSTEM TO A NON-PRESSURIZED SYSTEM

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 87, Reference (c), with the following exceptions:
 - 1. Paragraph 3.12.9.2.1 shall be revised to read as follows:

"3.12.9.2.1 TRANSFER PUMPS:

Transfer pumps shall be interchangeable with the boost pumps and shall be located as shown in each main tank to supply the boost pump baffle areas, . . . " (Remainder of paragraph per CCP 21A).

- 2. Paragraph and page identification should be revised as follows due to specification changes incorporated by change orders subsequent to preparation of CCP 21A.
 - Page 2 "Delate the last two paragraphs on page 48" should read "Delete the first two paragraphs on page 52A."

"Page 49, delete the first three sentences and related note" should read "Page 52A, delete the last three paragraphs and related note."

Page 5 (Specification Page 52) "Change paragraph 3.12.9.12.1 to read 3.12.9.12 - Fuel Temperature Indication" was handled by Change Order 7.

> (Specification Page 54) Paragraph 3.12.11.2 GENERAL CONTROLS:

"Change last item in controls list from Fuel dump controls to 'Fuel jettison controls'" should read "change next to last item in controls list, etc."

RECEIVE JUN 1 2 '58 PROJECT SPEC. GROUT

(Continued on Page 2)

Sold to: Hughes Tool Company

Date: 10 June 1958

Houston, Texas

SO No:

880-1-148

Reference:

(a) TWA letter, 880-624A-143, dated 4 June 1958

WO No:

30,000 Series

(b) Commercial Change Proposal No. 21A

(c) MCL No. 87

MODEL 880 - TWA

FUEL SYSTEM, CHANGE FROM PRESSURE SYSTEM TO A NON-PRESSURIZED SYSTEM

- (1) (Cont) All departments concerned are directed to proceed with the change outlined in Reference (b) and the exceptions outlined above.
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department at the earliest possible date. Reference (b), with the noted exceptions, is to be incorporated into the next available Change Order.
- (3) This change has no effect on aircraft guaranteed weight empty, airplane performance, nor delivery schedule.

SJH:ba

Log No: 1205

Co Colleges

Wanager of Contracts

CONVAIR A Division of General Dynamics Corporation (San Diego)



TWA MINUTES 10 June 1958

No. 125

22-1

Reference: (a) S.O. 880-1-148 dated 10 June 1958

(b) Commercial Change Proposal No. 21A

(c) MCL No. 87

Fuel System, Change from Pressure System to a non-pressurized System

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), to change for a fuel system incorporating electrically driven transfer and booster pumps, hydraulically driven jettison pumps and tanks pressurized only by ram air pressure, with a maximum differential of +3.0 psi.

The following exceptions to reference (b) proposal shall apply:

Paragraph 3.12.9.2.1 shall be revised to read as follows:

"3.12.9.2.1 TRANSFER PUMPS:

Transfer pumps shall be interchangeable with the boost pumps and shall be located as shown in each main tank to supply the boost pump baffle areas, . . . " (Remainder of paragraph per CCP 21A).

Paragraph and page identification should be revised as follows due to specification changes incorporated by change order subsequent to preparation of CCP 21A.

"Dalete the last two paragraphs on page 48" should read Pere 2 "Delete the first two paragraphs on page 52A."

> "Page 49, delete the first three sentences and related note" should read "Page 52A, delete the last three paragraphs and related note."

(Specification Page 52) Page 5 "Change paragraph 3.12.9.12.1 to read 3.12.9.12 - Fuel Temperature Indication" was handled by Change Order 7.

> (Specification Page 54) Paragraph 3.12.11.2 GENERAL CONTROLS:

"Change last item in controls list from 'Fuel dump controls' to 'Auel jettison controls'" should read "change next to last item in controls list, etc."

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within three weeks of Sales Order data. Reference (b), with the noted exceptions, is to be incorporated into the next available Change Order.

CUNVAIR SAN DIGO

Sold to:

Rughes Tool or any Bouston, Tecas

Data: #Revised: 20 lay 1958 26 May 1958

SO No: 287-1-145

Wo No: 30 000 Saries

MODEL 880 - HUGHES TOOL COMPANY CHANGE ORDER NO. 15

(1) Attached is a copy of Change Order No.15 signed by Hughes Tool Company, which amends Detail Specification Report No. ZD-22-002, dated 1 June 1956, revised 7 September 1936 to incorporate Specification Change Nos. 35D, 5LA, 624 96, 98, 1084, 110, 111, 121 and 125 on the Model 880 aircraft.

5009

*Regised to distribute conformed copies of Change Order.

Manager of Contracts

co: E. Burke (w/exec. supy) 880 Project Office (s/attach 2) Com la (W/attach) H. A. Mayes (w/esta h) Contract Staff Se on (w/attach) E. S Duron (at 1 1) J. arg 1/attech)

W. F. Brown w/attach) . G. Whisler (w/steach) H. R. Kennedy (w/attack) Commercial Contracts Arthur Anderson : Company hange Order No. 15

PALUJE: TI SHIC. CHOUP!

CHANGE ORDER NO. 15

to

HUGHES TOOL COMPANY

Detail Specification Report No. ZD=22=002 Dated 1 June 1956, Revised 7 September 1956

- A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change Nos. 35D, 61A, 62A, 96, 98, 108A, 110, 111, 121 and 125 and Commercial Change Proposal Summary No. 14 attached hereto and made a part hereof.
- B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 14 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 14 attached.

E. Effect on delivery:

None

- F. This Change Order results in the following charges and/or credits:
 - 1. Change No. 35D Engine Starting System,
 Additional Provisions for (Pages 55 and 64)

	Recurring Charge Non-recurring Charge	\$ 590.00 3.215.00	<u>30</u>	otal for Airplanes 17,700.00 96,450.00
	Total Charges	\$ 3,805,00	\$]	14,150.00
2.	Change No. 61A - Pilot and Copilot Chart Light, (revision) (Page 74 (Cont.))			
	Recurring Charge Non-recurring Charge	\$ 38 _* 00 84 ₀ 00	\$	1,140.00
	Total Charges	\$ 122.00	\$	3,660.00
30	Change No. 62A - Low Pressure Warning Light, deletion of (Page 57)			
	Recurring Gredit Non-recurring Credit	\$ 78,00 26,00		2,340.00 780.00
	Total Credits	\$ 1.04.00	\$	3,120.00

CHANGE ORDER NO. 15 to HUGHES TOOL COMPANY

Detail Specification Report No. 2D-22-002 Dated 1 June 1956, Revised 7 September 1956

4. Change No. 96 - Fuel Quantity System Counterpointer Indicator (Page A-10 (Accomp. by 19D))

150.00

1

	Counterpointer Indicator (Page A-10 (Accomp. by 19D))				Ä
		Per A	irplane		tal for Airplanes
	Recurring Charge Non-recurring charge	\$	204.00 35.00	\$	6,120.00 1.050.00
	Total Charges	\$	239.00	\$	7,170,00
5.	Change No. 98 - Revised Description of Windshield Rain Removal System (Page 28 (Cont.), 28))				
6.	Change No. 108A - National Aircraft Standard Bolts, Use of (Page 4)	No	Charges	or	Credits
7.	Change No. 110 - Revision of Rudder Servo Motor from Linear to Rotary Drive (Page A-9 (Accomp. by 19D))	No	Charges	or	Credits
8.	Change No. 111 - Specification Administrative Change (Air Cond. System) (Page 126)	No	Charges	or	Credits
9.	Change No. 121 - Flush Type Mooring Provisions, Deletion of (Page 127)	No	Charges	or	Credits
lo.	Change No. 125 - Specification Administrative Change (ZM-256 to 0-09001) (Pages 8, 66, 67, 68 (Cont.) 70, 91, 92, 93, and 94)	No	Charges	or	Credits
11.	Summary of the foregoing charges and/ or credits:	No	Charges	or	Crédite
		Per A	irplane		tal for Airplanes
	Recurring Charges Non-recurring Charges		754.00 308.00		22,620.00
	Total Charges	\$ 4,0	062.00	\$ 1	21,860,00

CHANGE ORDER NO. 15 to HUGHES TOOL COMPAN; Petail Specification Report No. ZD-22-002

- G. The attached Specification Change Nos. 35D, 61A, 62A, 96, 98, 108A, 110, 111, 121 and 125 and Commercial Change Proposal Summary No. 14 are hereby incorporated into and become a part of Detail Specification Report No. ZD-22 002 dated 1 June 1956, Revised September 1956.
- H. Except as herein modified all provisions of the Detail Specification shall remain in effect.

Accepted	and agreed to	
This HUGHES T	day of May 195 &	GENERAL DYNAMICS CORPORATION
Ву	R. W. Rummel	By B. F. Coggan
Title	Special Representative	Title Vice President -
		CONVAIR Division

CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company

Hagnes 1001 Comp

Date:

12 May 1958

Houston, Texas

SO No:

880-1-144

Reference:

(a) TWA letter, 880-596A-137, dated

30 April 1958

WO No: 30,000 Series

(b) Commercial Change Proposal No. 115A

(c) MCL 27

(d) D.I.B. No. 4.010

MODEL 880 - TWA

STRUCTURAL PROVISIONS FOR OVERWATER OPERATION

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 27, Reference (c). Accordingly, all departments concerned are directed to proceed with the change cutlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within three weeks (6/2/58) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, nor contract price.
- (4) This Sales Order supersedes in its entirety Sales Order No. 880-1-97.

WDW: b@

Log No: 3994

Co Collasgow Manager of Contracts

COMVAIR A Division of General Dynamics Corporation (San Diego)

THA MINUTES

13 May 1958

No. 122

22-1

References:

- (a) S.O. 880-1-144 dated 12 May 1958 (b) Cornercial Change Proposal No. 115A

(c) MCL 27

1

1. Structural Provisions for Overvater Operation

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), to include structural provisions for overwater operation.

Description of Change:

Page 25, Paragraph 3.7.1.1 INSCRIPTION:

Add the following sentences to the end of paragraph:

"Structural provisions shall be made, in the fusclege below the cabin floor level only, to permit the airplane to withstand water ditching loads compatible with the results obtained from NACA model. tests. The structural provisions shall include reinforcement to the frames, hinges and latches of the following closures:

- 1. Two cargo dcore
- 2. Electronics compartment access door
- 3. Hydraulic compartment access door
- 4. Door at the top of nose wheel well
- 5. Two miscellarsous equipment access doors (Sta. 221, L. & R.)

Additional local doublors and reinforcement as required shall be provided on the longerons edjacent to the doors."

These Minutes supercede TVA Minutes Ro. 80.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within three weeks of Sales Order date.

AJS:JM:rb

CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company Date:

8 May 1958

Houston, Texas

SO No:

880-1-143

References

(a) TWA letter, 880-594A-136, dated 29

April 1958

(b) Commercial Change Proposal No. 173 (c) MCL 196

WO No: 30,000 Series

(d) D.I.B. No. 4.010

MODEL 880 - TWA

LAVATORY TOWEL DISPENSER, ADDITION OF

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 196, Reference (c), Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within three weeks (5/29/58) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, nor contract price.

Log No: 3969

Manager of Contracts

A Division of General Dynamics Corporation (Sam Diego)



TWA Minutes

9 May 1958

No. 121

22-1

Reference: (a) S.O. 880-1-143 dated 8 May 1958

Commercial Change Proposal No. 173

MCL 196

1. Lavatory Torel Dispenser, Addition of

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), for addition of a third levatory towel dispenser.

Description of Change:

Page 109, Para. 3.19.2.2.3 MISCELLANEOUS LAVATORY ROUTPERNT:

Change the seventh item in the equipment list as follows:

"Two towel dispensers (one for linen and one for paper)" From:

"One towel dispenser unit (consisting of three dispensers; To: two universal for either linen or paper, and one for paper only)"

Page A-14, APPENDIX I-C, FURNISHINGS:

Change the 14th item in the Description List as follows:

From: "3 Linen Towel Dispenser"

"3 Towel Dispenser Units (each consisting of three dis-To: pensers; two universal for either linen or paper, and one for paper only)"

ACTION: All concerned are authorized to proceed with the above. Specification Group to forward revised specification pages to Contracts within three weeks or S.O. date.

Project Engineer

AJStabilarb .

JULYATE SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company

Houston, Texas

Date:

7 May 1958

SO No:

880-1-142

R forence: (a) TWA TWX, 880-602A-138, dated

5 May 1938

(b) Commercial Change Froposal No. 174

WO No: 30,000 Series

(c) MCL No. 204

(d) D.I.B. No. 4.010

MODEL 880 - TWA

PORTABLE OXYGEN CYLINDER ASSEMBLIES, REVISION TO

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 204, Reference (c). Accordingly, all departments concorned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within three weeks (5/28/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, nor-delivery schedule.
- (4) The Scott 5600-B3 and three Scott 5600-B3B oxygen cylinder configurations shall be in accordance with TWA letter 380-512 dated 24 February 1958.

DW : big

Log No: 3980

Manager of Contracts

CUNVAIR A Division of General Dynamics Corporation (San Diego) TWA MUNICIPUES 9 May 1958 No. 120 22-1 Ref: (a) S.O. 880-1-142 dated 7May 1958 Commercial Change Proposal No. 174 (c) MCL No. 204 1. Portable Oxygen Cylinder Assemblies, Revision to THA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL 204, reference (c), with the following revisions: Coelmit Provide one each Scott 5600 B-3 Portable Oxygen Assembly with the following modifications: 1. Constant-flow outlet plugged. 2. Mask attachment fitting on demand regulator shall be an AN type push-pull quick convection adapter (Scott Part No. 5606 or equivelent).

3. Demand mask essembly with the Assembly shall be a Scott 6200 FL mask with 28-inch length breathing hose and a Scott 7025 connector on the attachment end of the hose.

It is suggested that the demand mask assembly and the asbestos gloves be packaged in a pouch attached to the cylinder assembly, with the mask hose connected to the cylinder and ready for instant use.

Passerge Cabin Area

Provide three Scott 5600 B-3B Assemblies with the following modifications:

- 1. Puritem Valve Assembly, Part No. 110020, shall be installed in the constant-flow outlet.
- 2. Mask struchment fitting on the demand regulator shall be an AN type push-pull quick connection adapter, Scott Part No. 5606, or equivalent.
- 3. One denead mask shall be extrached to the cylinder assembly ready for instant use. This mask shall be a Scott 6200 FL mask with 28-inch length breathing hose and A Scott 7025 connector on the attachment and of the hose.
- 4. One constant-flow Puriton mask assembly, Part No. 114010, shall be packaged with, but not assembled to, the cylinder assembly. The mask assembly shall consist of a Furitan No. 114011 Mask, No. 611014. Tubing (60-inch length) and a No. 210019 Insert Stem.

All concerned are suthorized to proceed with the above change.
Engineering Specification Group will forward revised specification pages to Contracts within three weeks of Sales order date.

A. J. Savard Project Engineer

AJS: JEC: rb

CONVAIR-SD

SALES ORDER

Haghes Tool Company Sold to:

Houston, Texas

14 May 1958

Reference: (a) MCL No. 10,068 (b) MCL No. 10,069

SO No:

Dates

880-1-111

WO No:

30,000 Series

MODEL 880-TWA

PLUSH INTERIOR

(1) This Sales Order cancels and supersedes Sales Order No. 880-1-75. Further, this Sales Order authorises all departments to proceed with incorporation of the Harley Earle - Dorothy Draper interior in TWA's Model 880 siroraft.

C. G. Glasgow Manager of Contracts THE TOTAL S

19 Nay 1958

Rewined: 29 May 1958

No a

22-1

3.0. 880-1-111 deced 15 May 1958

10,068 10,068

- L. Lo. 10,069

11 15 192

(a) Sales Order subscripts all conterned to proceed with the incor-

bear serel ad agreed dinutes No. 65.

ACTION: All concerned are authorized to proceed as described above.

cotions Group not to incorporate above change until authorized to

A. J. Saverd Project Engineer